SY-P4I845PE

Motherboard

****

mPGA Socket 478 Processor supported

Intel 845PE AGP/PCI

400/533 MHz Front Side Bus supported

ATX Form Factor

****

User's Manual

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About This Guide:
This Quick Start Guide can help system manufacturers and end users in setting up and installing the Motherboard. Information in this guide has been carefully checked for reliability; however, to the correctness of the contents there is no guarantee given. The information in this document is subject to amend without notice.
For further information, please visit our **Web Site** on the Internet. The address is **"http://www.soyo.com.tw".**

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P4I845PE SERIAL

FC Tested To Comply With FCC Standards
FOR HOME OR OFFICE USE

100% POST CONSUMER RECYCLED PAPER

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Chapter 1

MOTHEBOARD DESCRIPTION

1-1 INTRODUCTION

The **SY-P4I845PE** AGP/PCI Motherboard is a high-performance Socket 478 processor supported ATX form-factor system board. **SY-P4I845PE** uses the Intel 845PE Chipset technology. This Motherboard is fully compatible with industry standards and adds many technical enhancements.

1-2 UNPACKING THE MOTHERBOARD

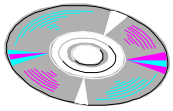
When unpacking the Motherboard, check for the following items:

- The SY-P4I845PE Intel 845PE AGP/PCI Motherboard

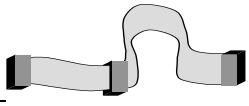
- The User Manual

- The Installation CD-ROM

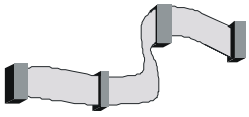
- SOYO Bonus Pack CD-ROM



- Two IDE Device ATA 100 Flat Cable



- One Floppy Disk Drive Flat Cable



- One Serial ATA Cable

- One Heat Sink Compound

- One Back panel

Warning: Do not unpack the Motherboard from its anti-static packaging until you are ready to install it.

Like most electronic equipment, your Motherboard may be damaged by electrostatic discharge. To avoid permanent damage to components ground yourself while working by using a grounding strap. Otherwise, ground yourself frequently by touching the unpainted portion of the computer chassis to drain the static charges.

Handle the Motherboard carefully, holding it by the edges. You are now ready to start the installation.

1-3 KEY FEATURES

➢ CPU SUPPORT

Supports Intel® mPGA Socket 478 processors

- Pentium® 4 With and Without Hyperthreading/Northwood/Willamette (400/533MHz FSB)
- Pentium® 4 Celeron

➢ CPU SETTINGS

The SY-P4I845PE provides the user with a very complete and convenient CPU setting environment. The CPU settings are all adjusted through the special SOYO COMBO page in the BIOS, therefore rendering the use of jumpers obsolete.

➢ Memory Support

Supports PC1600/2100/2700 DDR Memory module.

➢ EXPANDABILITY

The SY-P4I845PE provides all the standard expansion slots, and many more additional expansion features:

- **Expansion slots**

- 1 x master AGP slot (1.5V only)
- 6 x 32-bit bus master PCI slots

◆ **Enhanced IO**

- Floppy disk controller
- 2x EIDE controllers with support for up to 4 Ultra DMA 33/66 /100 devices
- Standard/EPP/ECP parallel port
- 2x 16550 compatible serial ports
- IrDA compatible infrared port
- 6x USB2.0 ports onboard
- PS/2 mouse connector
- PS/2 keyboard connector

➢ IDE RAID FUNCTION

Supports HighPoint PCI-to-IDE UDMA/ATA133 RAID on board

- 2 ATA devices
- RAID function (RAID 0, 1)

➢ AC97 4-Channel AUDIO

➢ LAN ON-BOARD

Supports 10/100 Mbps base-T Ethernet.

➢ SMART CARD READER

Compliant with Personal Computer Smart Card (PC/SC) Working Group standard. Supports Smart Card insertion power-on feature.

➢ ADVANCED FUNCTIONS

The SY-P4I845PE supports advanced functions such as:

- Wake-On-LAN
- Multiple boot

The SY-P4I845PE supports booting from devices such as CD-ROM.

- Power on by modem or alarm

If the SY-P4I845PE system is in suspend mode, it can be switched

back on through the modem or RTC alarm through this function. This opens a lot of possibilities, such as remote access that switches the system on only after the modem receives a call.

➢ FAIL SAFE

The SY-P4I845PE comes with added functionality to make managing the system easy and safe.

➢ Hardware Monitor

The integrated Hardware Monitor IC and Hardware doctor software enables the user to monitor system voltages, temperatures and FAN speeds. This makes sure that the user is full control of the system.

➢ Power Failure Resume Function

This function can be set in the BIOS, and determines whether the system will automatically turn on again after a power failure. This function is indispensable for server systems that need to always be on line.

➢ SOYO Bonus Pack CD-ROM

➢ COMPLIANCE

The SY-P4I845PE complies with all important industry standards. The following underlines the reliability of the SY-P4I845PE, a motherboard to trust.

- PC99, ACPI compliant

➢ USER FRIENDLY

- SOYO COMBO Setup
- Jumperless design
- You can set up the following options through the Soyo COMBO setup
  - CPU FSB frequency
  - CPU multiplier
  - CPU Vcore voltage select
  - DDR RAM Clock

- DDR RAM voltage select
- AGP voltage select
- On board Devices Enable/Disable
- Pre-defined optimal system Performance

1-4 HANDLING THE MOTHERBOARD

To avoid damage to your Motherboard, follow these simple rules while unpacking:

- Before handling the Motherboard, ground yourself by grasping an unpainted portion of the system's metal chassis.
- Remove the Motherboard from its anti-static packaging. Hold the Motherboard by the edges and avoid touching its components.
- Check the Motherboard for damage. If any chip appears loose, press carefully to seat it firmly in its socket.

Warning: Do not apply power if the Motherboard appears damaged. If there is damage to the board, contact your dealer immediately.

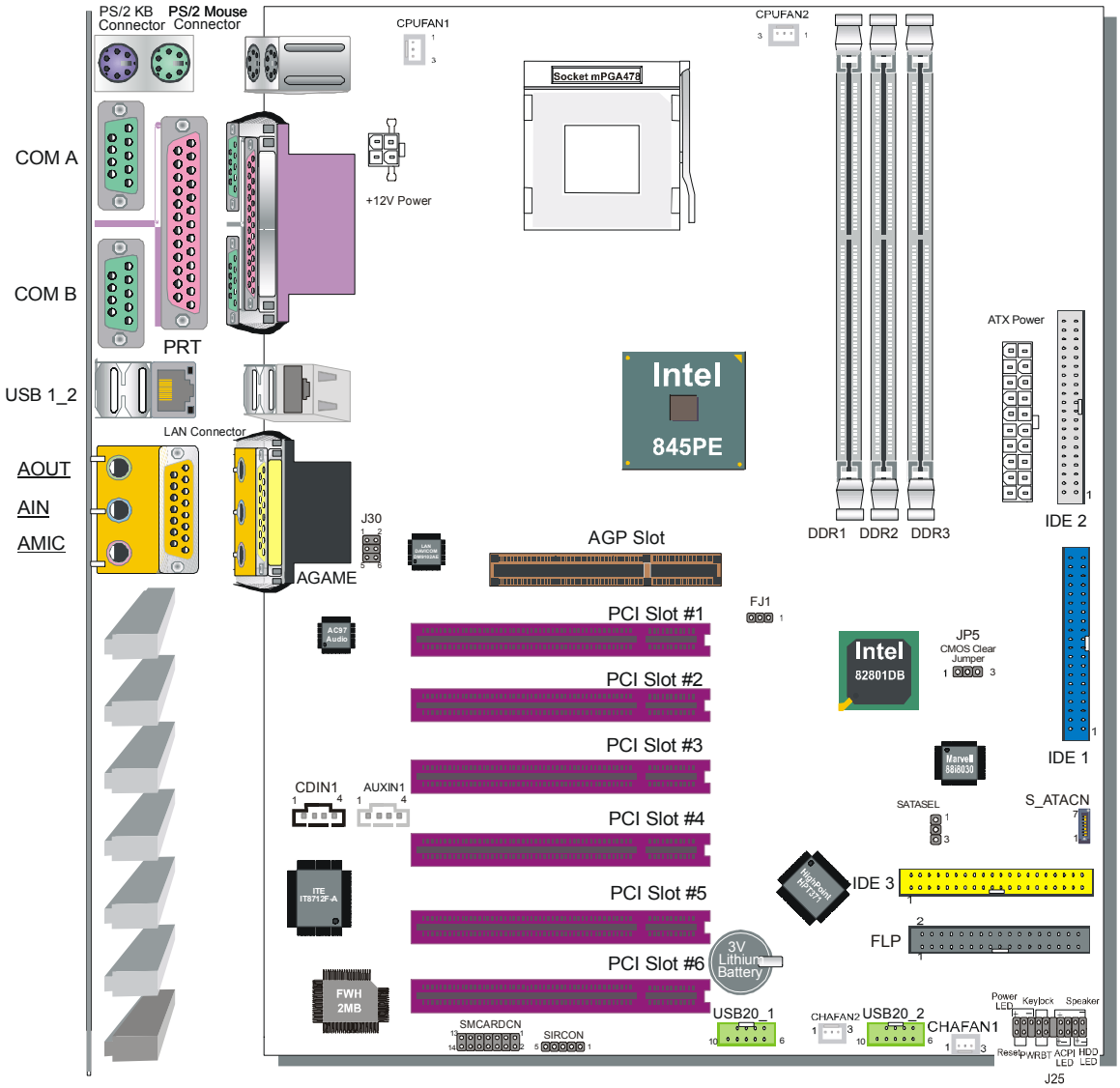
1-5 ELECTROSTATIC DISCHARGE PRECAUTIONS

Make sure to ground yourself before handling the Motherboard or other system components. Electrostatic discharge can easily damage the components. Note that you must take special precautions when handling the Motherboard in dry or air-conditioned environment.

To protect your equipment from electrostatic discharge, take the following precautions:

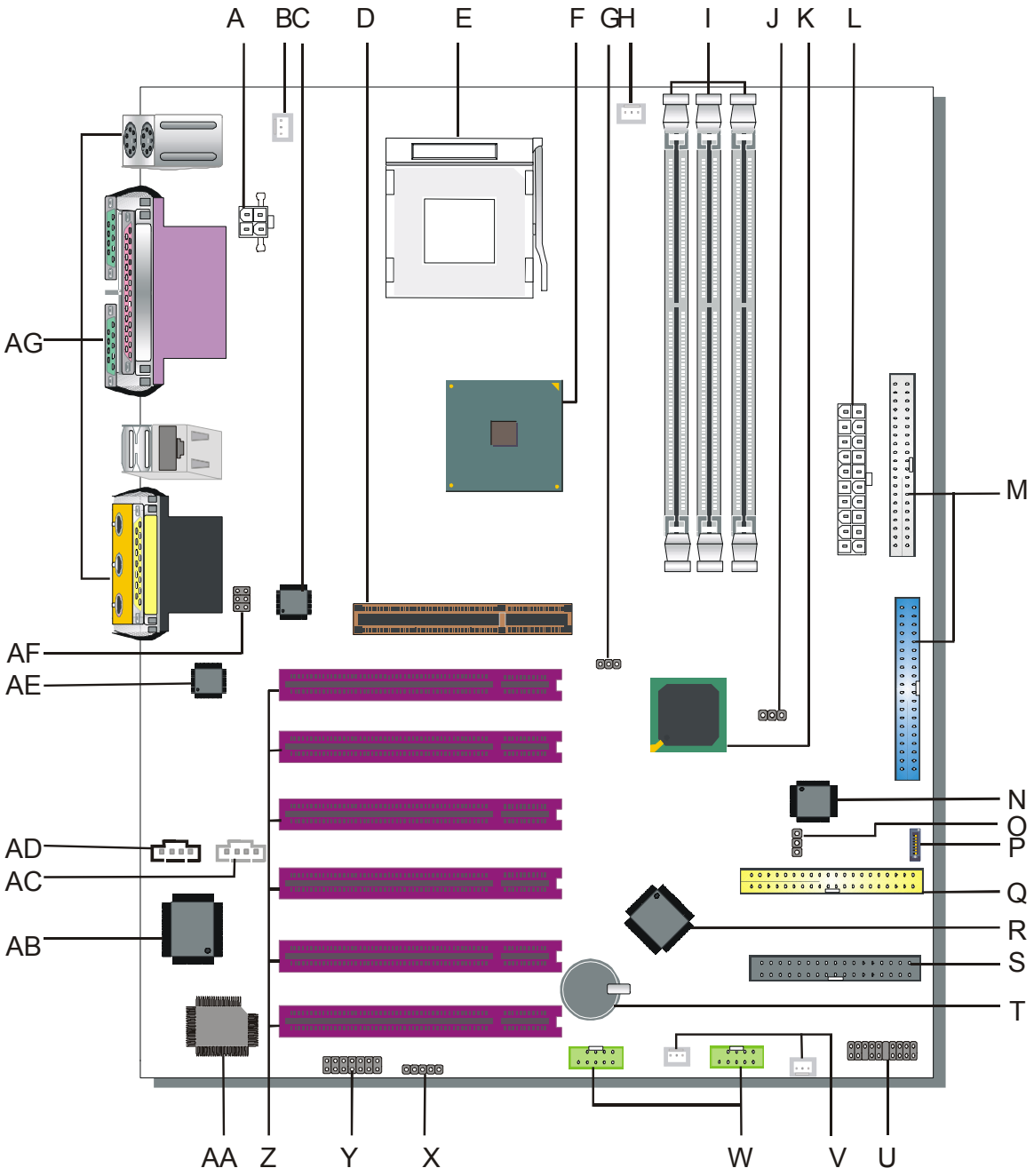
- Do not remove the anti-static packaging until you are ready to install.
- Ground yourself before removing any system component from its protective anti-static packaging. (To ground yourself, grasp the expansion slot covers or other unpainted portions of the computer chassis.)
- Frequently ground yourself while working or use a grounding strap.
- Handle the Motherboard by its edges and avoid touching its components.

1-6 SY-P4I845PE MOTHERBOARD LAYOUT



Back Panel **SY-P4I845PE Platform**

1-7 SY-P4I845PE MOTHERBOARD COMPONENTS



A +12V Power Connector
B CPU Cooling Fan1 Connector
C Davicom Lan Chip
D AGP Slot
E Socket 478 Connector
F Intel 845PE North Bridge Chip
G CPU FSB setting Jumper
H CPU Cooling Fan2 Connector
I DDR DIMM Bank
J CMOS Clear Jumper
K Intel 82801DB South Bridge Chip
L ATX Power Supply Connector
M Bus Mastering EIDE/ATAPI Ports
N Serial-ATA Chip
O Serial-ATA jumper
P Serial-ATA Connector
Q IDE RAID Port
R HighPoint IDE RAID Chip
S Floppy Disk Drive (FDD) Port
T 3V Lithium Battery
U Front Panel connectors
V Chassis Cooling Fan (Fan1, 2) Connector
W USB 2.0 Connector
X Serial Infrared (IrDA) Device Header
Y Smart Card Reader Connector
Z 32-bit PCI Slots
AA Flash BIOS
AB ITE I/O Chip
AC AUX-IN Connector
AD CD-IN Connector
AE AC97 Audio Chip
AF Front panel Connectors
AG Back panel Connectors

Chapter 2

HARDWARE INSTALLATION

Congratulations on your purchase of **SY-P4I845PE** Motherboard. You are about to install and connect your new Motherboard.

Note: Do not unpack the Motherboard from its protective anti-static packaging until you have made the following preparations.

2-1 PREPARATIONS

Gather and prepare all the following hardware equipment to complete the installation successfully:

1. Socket mPGA478 processor with built-in CPU cooling fan.
2. DDR RAM memory module(s)
3. Computer case and chassis with adequate power supply unit (350 Watt)
4. Monitor
5. Keyboard
6. Pointing Device (mouse)
7. Disk Drives: HDD, CD-ROM, Floppy drive…
8. External Peripherals: Printer, and Modem- (optional)
9. VGA Card (AGP 1.5V only, PCI)

Note: **This M/B can only support AGP 1.5V VGA card only!**

2-2 INSTALLATION GUIDE

We will now begin the installation of the Motherboard. Please follow the step-by-step procedure designed to lead you to a complete and correct installation.

Step1- Install the Central Processing Unit (CPU).
Step2- Install memory modules.

Step3- Install expansion cards.

Step4- Connect cables, case wires, and power supply.

Step5- Power on and enter BIOS setup .

Step6- Install supporting software tools. See Chapter 4 for more info.

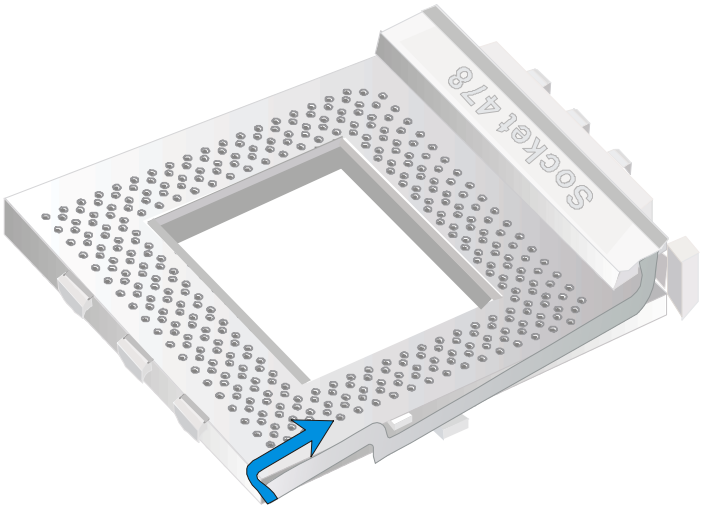
Warning: Turn off the power to the Motherboard, system chassis, and peripheral devices before performing any work on the Motherboard or system.

BEGIN THE INSTALLATION

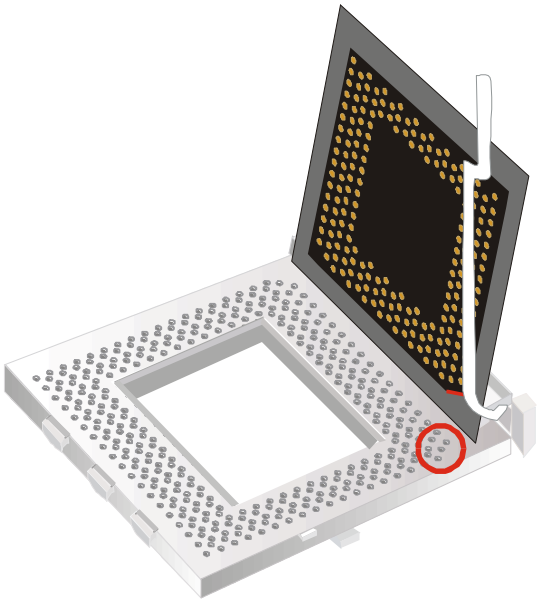
Step 1 Install the CPU

CPU Mount Procedure: To mount the Pentium® 4 Socket mPGA478 processor that you have purchased separately, follow these instructions.

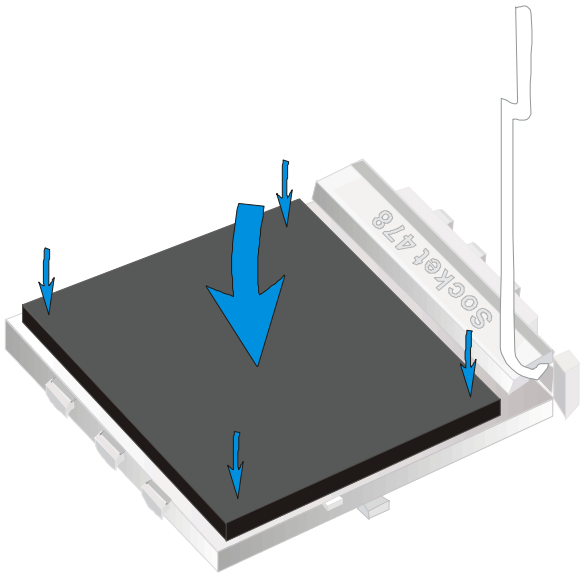
1. Lift the socket handle up to a vertical position.



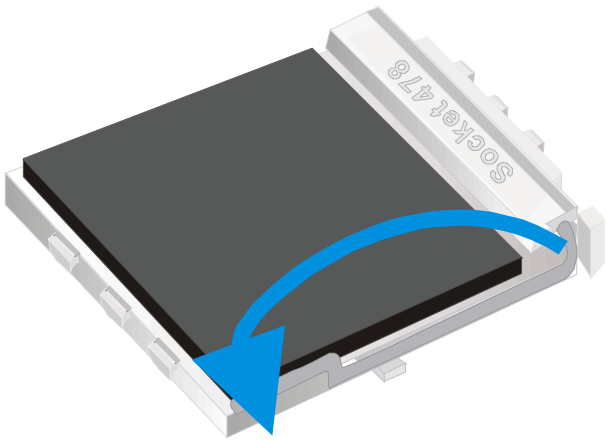
2. Align the blunt edge of the CPU with the matching pinhole distinctive edge on the socket.



3. Seat the processor in the socket completely and without forcing.



4. Then close the socket handle to secure the CPU in place.



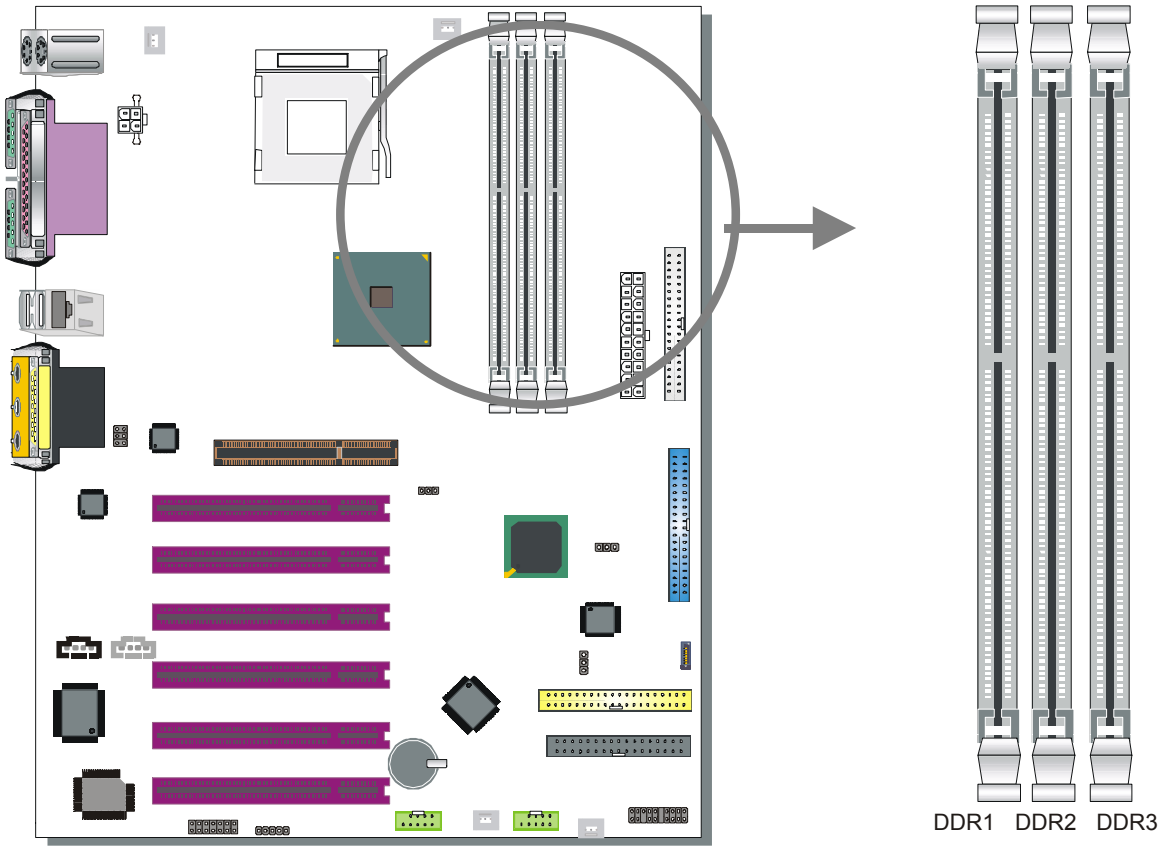
Remember to connect the CPU Cooling Fan to the appropriate power connector on the Motherboard. *The fan is a key component that will ensure system stability. The fan prevents overheating, therefore prolonging the life of your CPU.*

CPU Fan Installation

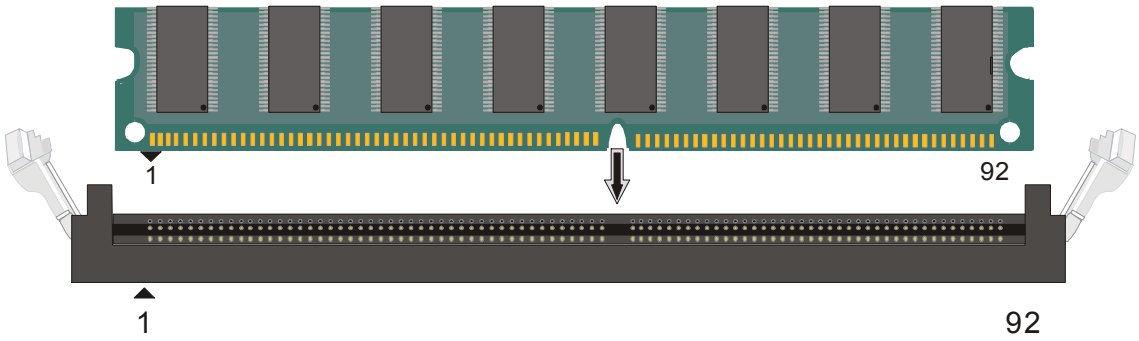
Your Socket 478 processor kit comes with a cooling fan. Mount the fan on the processor according to the instructions provided by the manufacturer. The fan is a key component that will ensure system stability. The fan prevents overheating, therefore prolonging the life of your CPU.

Note: Remember to connect the fan to the appropriate power source.

Step 2 Install Memory Module



This motherboard support PC2100 and PC2700, Non-ECC and non-registered module. ***The largest memory capacity possible is 2GB.*** On this motherboard, DRAM speed can be set independent from the CPU front side bus speed. ***A maximum of 2 pcs. Double-sided module can be used at the same time.***



Memory Configuration Table

DDR1	DDR2	DDR3
Double sided	Double sided	None
Double sided	Single sided	None
Double sided	Single sided	Single sided
Single sided	Single sided	none

Note: 533MHz FSB CPU should be used to have PC2700 support.

Step 3 Connect cables, case wires, and power supply Install expansion cards

This section tells how to connect internal peripherals and the power supply to the Motherboard.

Examples or internal peripherals are of IDE devices (HDD, CD-ROM), Floppy Disk Drive, Chassis Fan, Front Panel Devices (ACPI LED, Internal Speaker, Reset Button, IDE LED, and KeyLock Switch.), Wake-On-LAN card, VGA card, Sound Card.

For more details on connecting internal and external peripherals to your new SY-P4I845PE Motherboard, please refer to *SY-P4I845PE Motherboard User's Manual and Technical Reference* online manual on the CD-ROM.

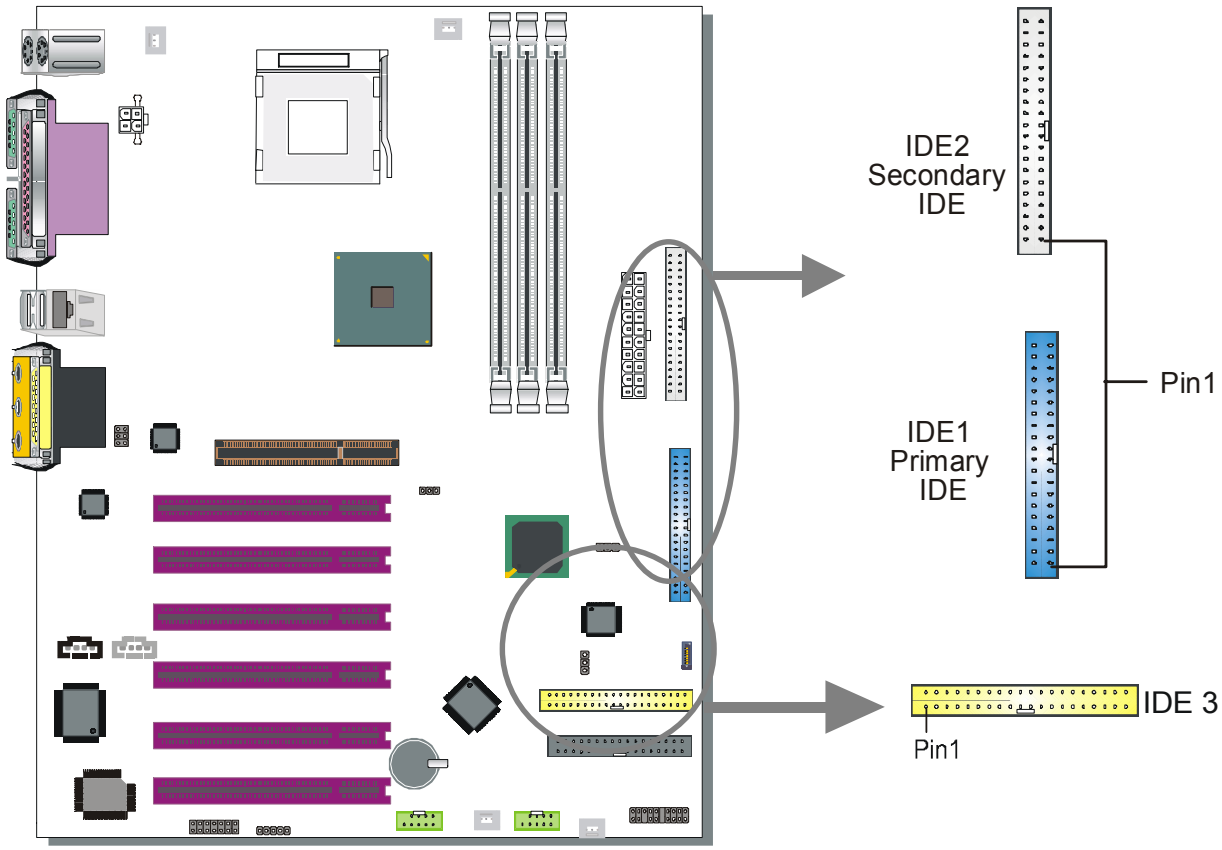
Step 4 Installation of Expansion Cards

The motherboard has 1 AGP slot and 6 PCI slots.

1. Read the related expansion card's instruction document before inserting the expansion card into the computer.
2. Press the expansion card firmly into expansion slot in motherboard.
3. Be sure the metal contacts on the card are indeed seated in the slot.
4. Replace the screw to secure the slot bracket of the expansion card.
5. Install required driver for the operating system you use.

Step 5 Connect cables, case wire, and power supply

A. IDE Device Installation (HDD, CD-ROM)

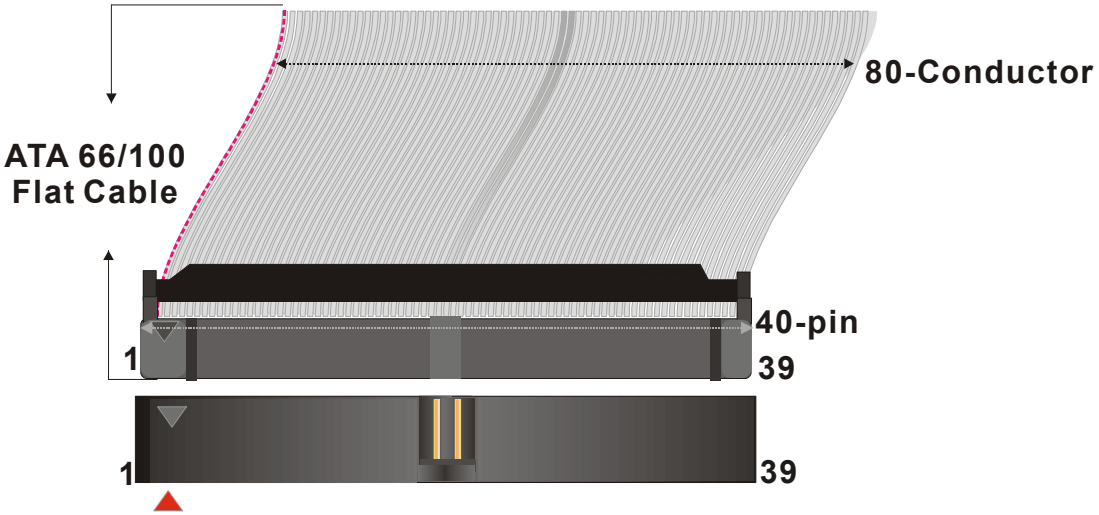


This Motherboard offers two primary and one secondary IDE device connectors (IDE1, IDE2), can support up to four high-speed Ultra DMA 33/66/100HDD or CD-ROM. IDE3 can support up to two high speed Ultra DMA 33/66/100/133 HDD.

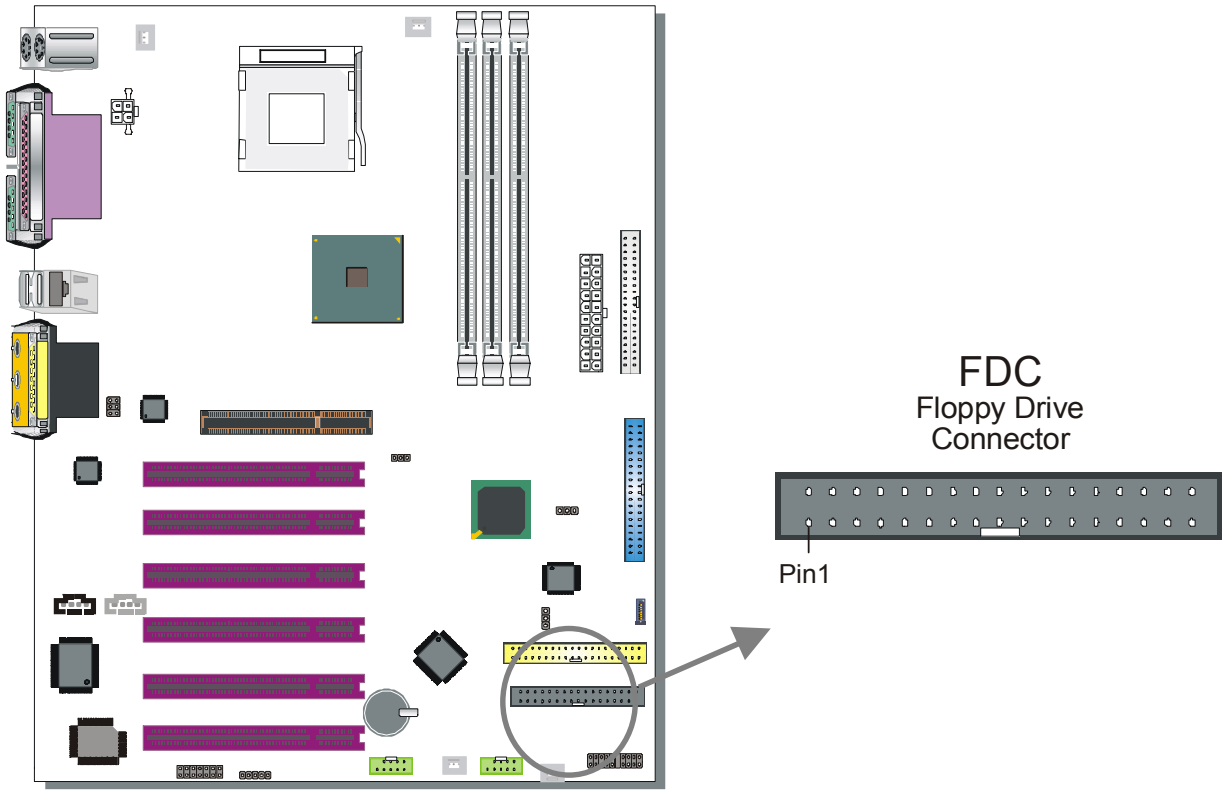
Connect the blue end of the ATA66/100 flat cable to the IDE device (HDD or CD-ROM) and plug the other end to the primary (IDE1, IDE3) or secondary (IDE2) directionally keyed IDE connector on the Motherboard. You can also plug the serial ATA cable into the serial ATA connector or the mainboard instead of using the IDE3 master connector. The ATA66/100 cable is backward compatible with ATA33 HDDs.

This Motherboard can support up to 6 HDDs.

There are four HDD connectors (IDE1, IDE2, IDE3, Serial ATA) on motherboard. IDE3 is provided for IDE RAID or standard IDE function. Note that when Serial ATA is used no hard disk can be connected as IDE3 master.


80-Conductor
ATA 66/100
Flat Cable
40-pin
1
39
1
39

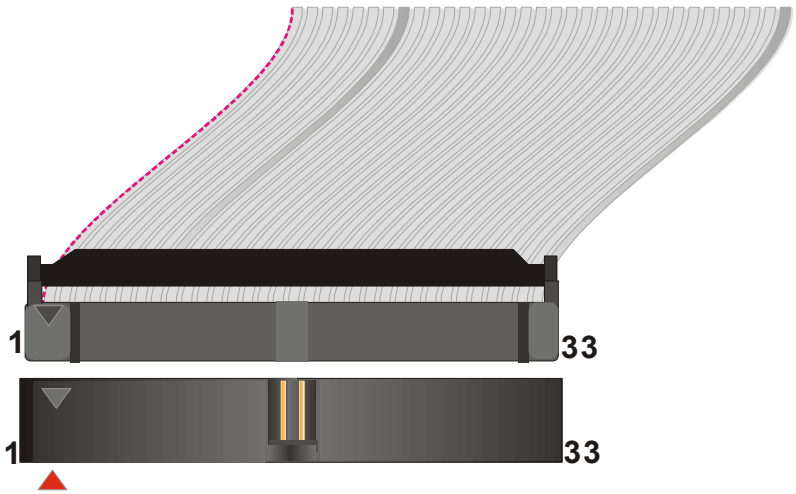
B. Floppy Drive Installation



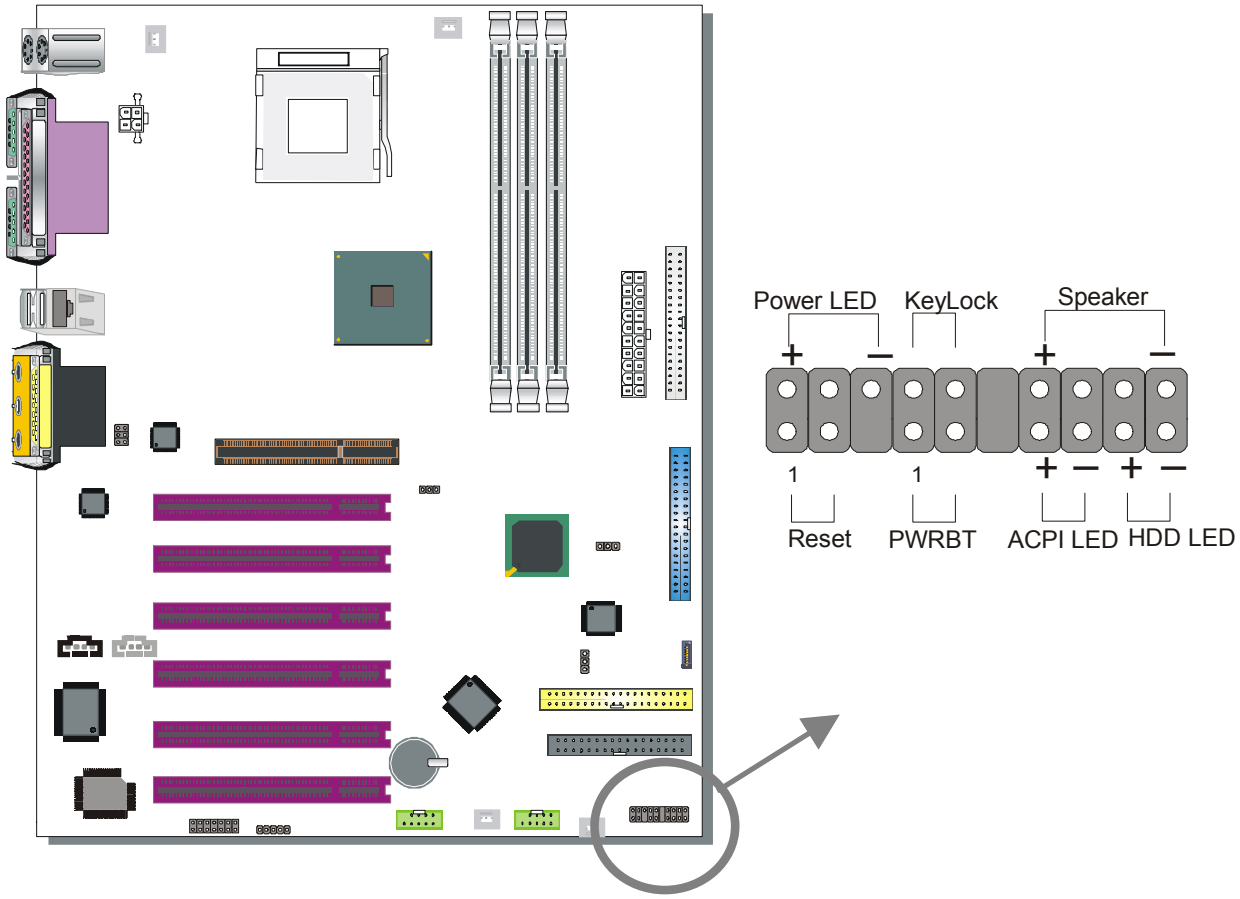
The system supports 5 possible floppy drive types: 720 KB, 1.2 MB, 1.44 MB, 2.88 MB. In addition, this Motherboard supports a 3-mode (720KB/1.2MB/1.44MB) floppy commonly used in Japan.

Connect one side of the 34-pin flat cable to the floppy drive and plug the other end to the floppy drive connector on the Motherboard.

This Motherboard can support up to 1 floppy drives.



C. Front Panel Connections



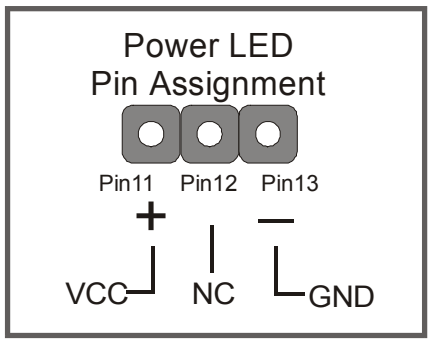
Plug the computer case's front panel devices to the corresponding headers on the Motherboard.

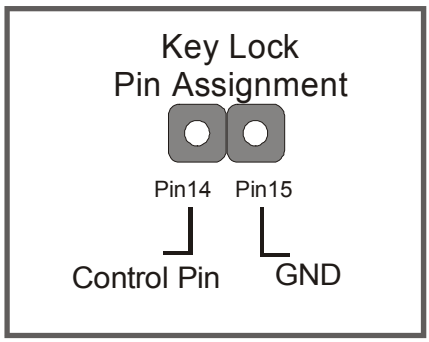
1. Power LED & KeyLock

Plug the Power LED cable into the 5-pin Keylock header.

Some systems may feature a KeyLock function with a front panel switch for enabling or disabling the keyboard. Connect the KeyLock switch to the 5-pin Keylock header on the Motherboard.

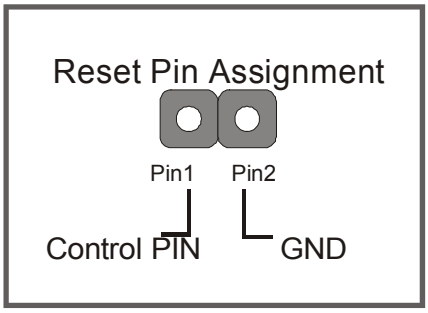
Please install according to the following pin assignment: pin 11,13 are for Power LED and pin 14,15 are for Keylock.





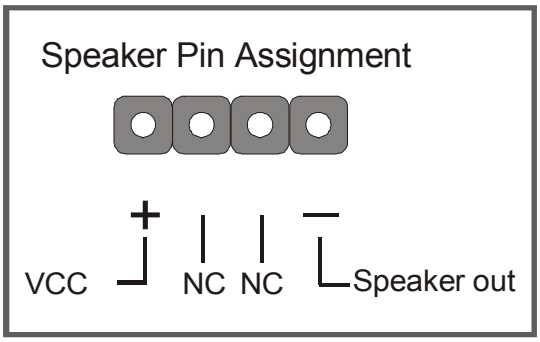
2. Reset

Plug the Reset push-button cable into the 2-pin Reset header on the Motherboard. Pushing the Reset button on the front panel will cause the system to restart the boot-up sequence.



3. Speaker

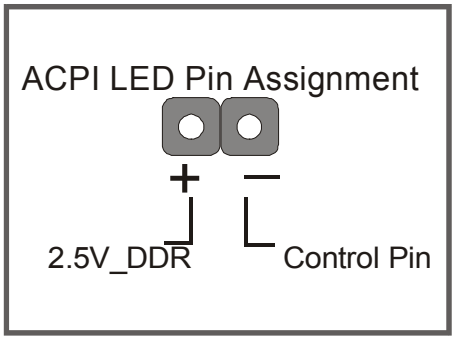
Attach the 4-pin PC speaker cable from the case to the Speaker header on the Motherboard.



4. ACPI LED

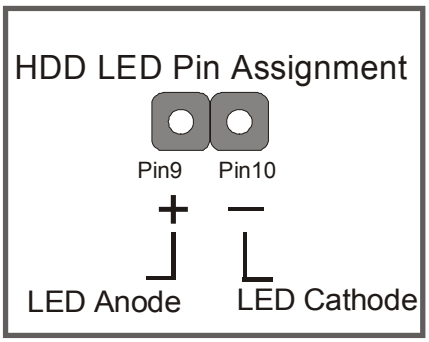
Connecting the 2-pin ACPI LED cable to the corresponding ACPI LED header will cause the LED to light whenever the system is in ACPI mode.

The manufacturer has permanently set this Motherboard in ACPI mode due to most hardware and software compliance to ACPI mode.



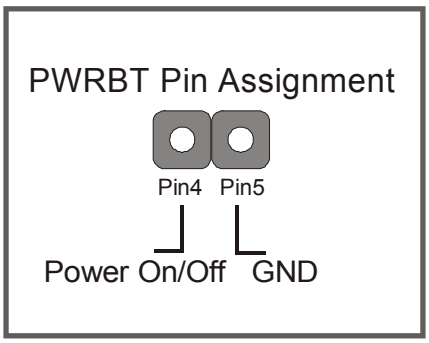
5. IDE LED

Attach the 2-pin IDE device LED cable to the corresponding IDE LED header on the Motherboard. This will cause the LED to lighten when an IDE1 or IDE2 (HDD, CD-ROM) device is active.



6. ATX Power On/Off Switch

Attach the 2-pin momentary type switch to the PWRBT header for turning On or Off your ATX power supply. Note that 5VSB will always have power.

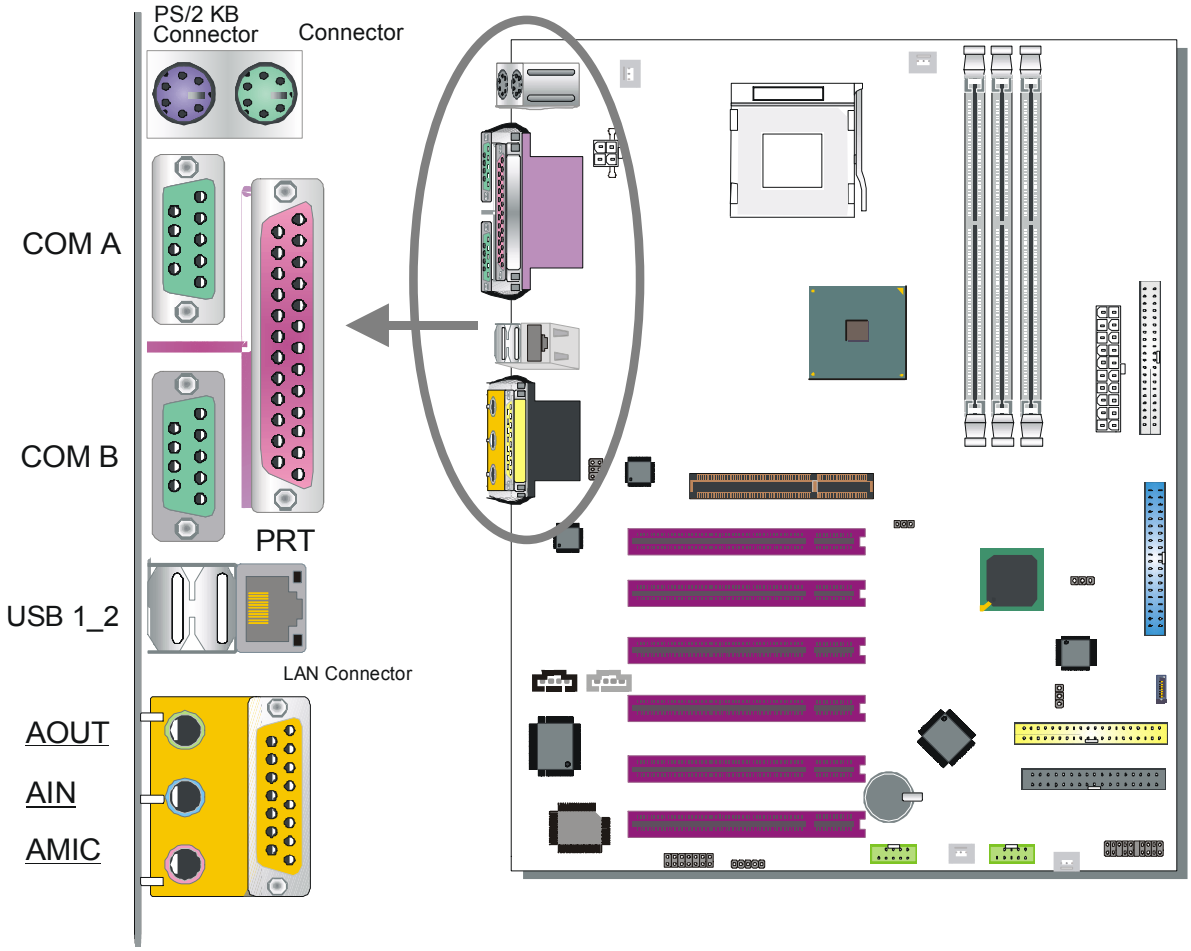


D. Back Panel Connections

All external devices such as the PS/2 keyboard, PS/2 mouse, printer, modem, USB can be plugged directly onto the Motherboard back panel.

Only after you have fixed and locked the Motherboard to the computer case can you start connecting the external peripheral devices.

When connecting an external device, use the following figure to locate and identify which back panel connector to plug the device to.



1. Onboard Serial Ports COM1/COM2

External peripherals that use serial transmission scheme include:

- serial mouse,
- modem.

Plug the serial device cables directly into the COMA/COMB 9-pin male connectors located at the rear panel of the Motherboard.

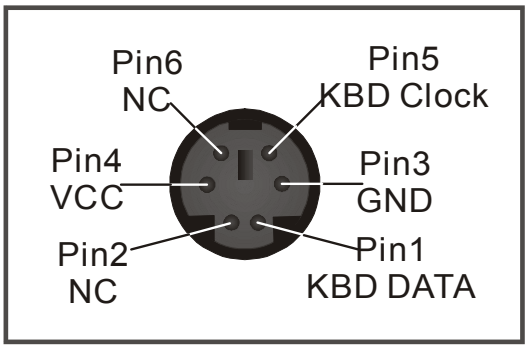
2. Parallel Port PRT

This parallel port is used to connect the printer or other parallel devices.

Plug the parallel device cable into the 25-pin female connector located at the rear panel of the Motherboard.

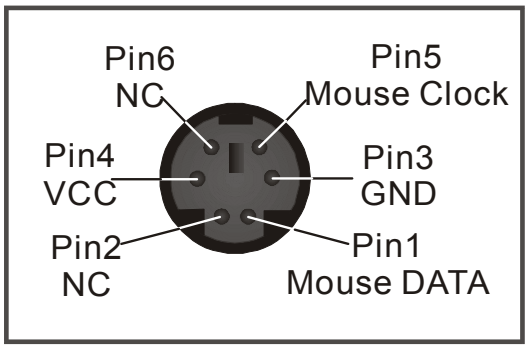
3. PS/2 Keyboard

Plug the keyboard jack directly into the 6-pin female PS/2 keyboard connector located at the rear panel of the Motherboard.



4. PS/2 Mouse

Similarly, plug the mouse jack directly into the 6-pin female PS/2 mouse connector.

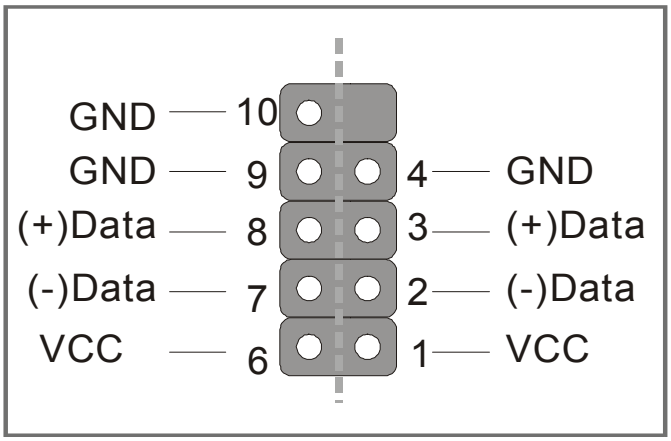


5. Universal Serial Bus (USB20_0, USB20_1)

This Motherboard provides three USB ports for your additional devices. Plug the USB device jack into the available USB connector USB20_0.

- Standard device drivers come with the operating system for commonly used USB devices.

USB20_1 is available. To make use of these USB ports, purchase a USB cable from your dealer. The lay-out of USB20_1 is as follows:



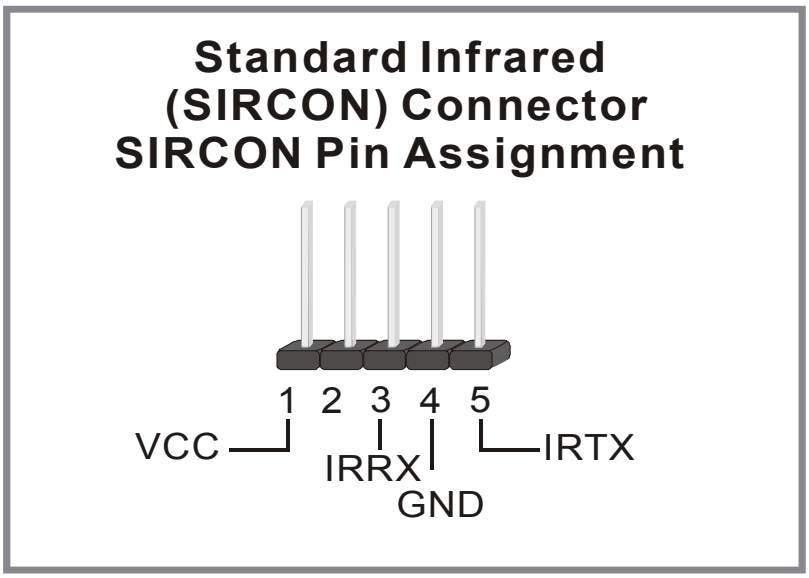
E. Other Connections

1. Standard Infrared (SIRCON)

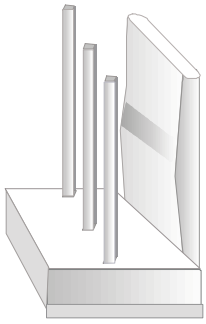
Plug the 5-pin infrared device cable to the SIRCON header.

This will enable the infrared transfer function. This Motherboard meets both the ASKIR and HPSIR specifications.

Please install according to the following pin assignment:



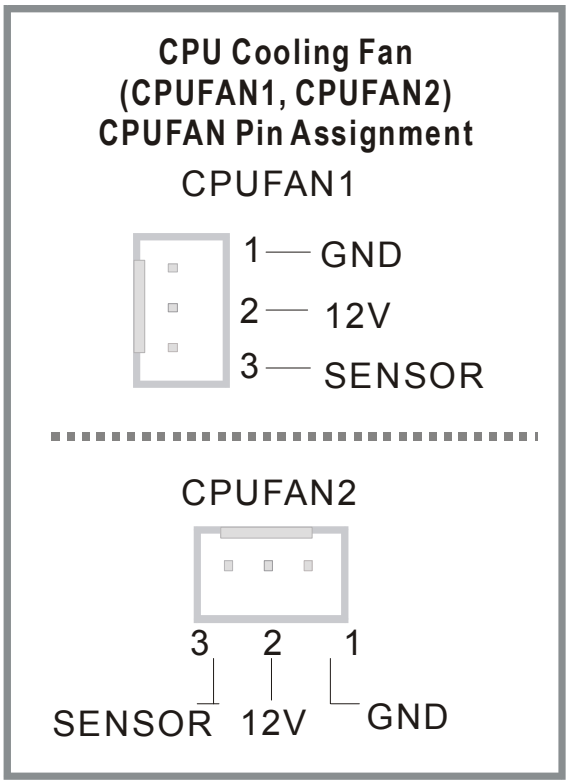
2. Cooling Fan Installation



(1) CPU Cooling Fan (CPUFAN1, CPUFAN2)

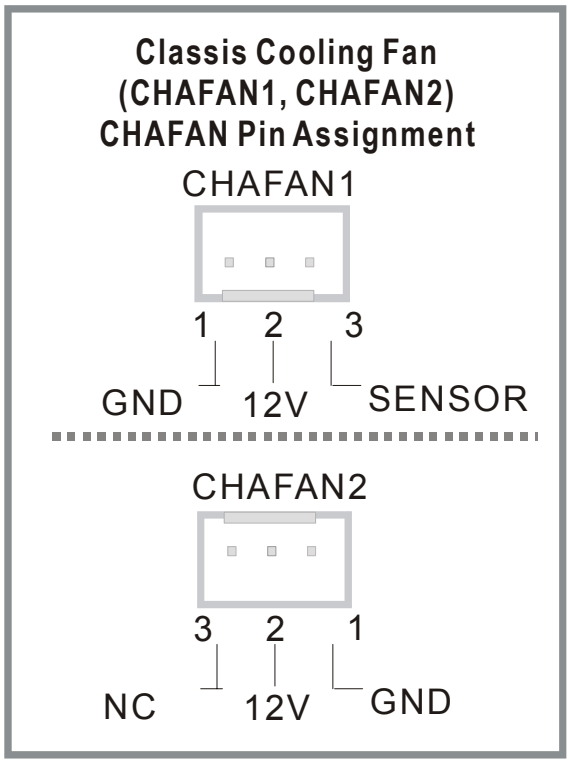
After you have seated the CPU properly on the processor, attach the 3-pin fan cable to the CPUFAN connector on the Motherboard.

To avoid damage to the system, install according to the following pin assignment:



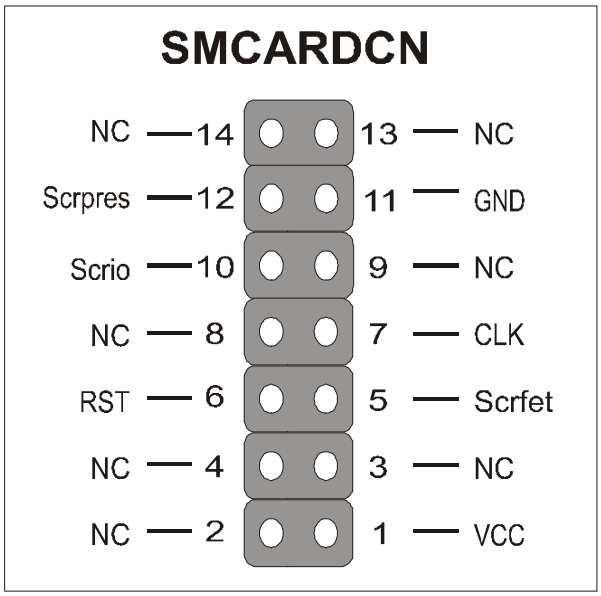
(2) Chassis Cooling Fan (CHAFAN1, CHAFAN2)

Some chassis also feature a cooling fan. This Motherboard features a CHAFAN connector to provide 12V power to the chassis fan. Connect the cable from the chassis fan to the CHAFAN 3-pin connector. Install according to the following pin assignment:



Note: *CPU cooling fan must be installed to prevent CPU from overheating and ensure system stability. Chassis cooling fan is optional, depending on whether there is cooling fan in your chassis.*

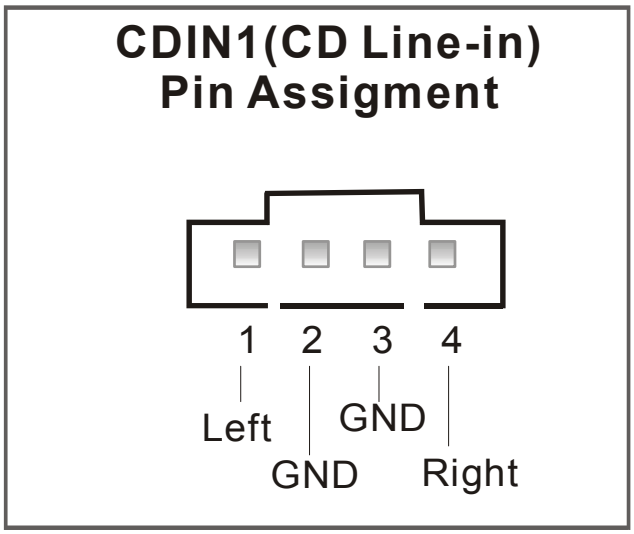
3. Smart Card Reader



4. CD Line-in (CDIN1)

This Motherboard provides one CD-Line in connectors. Please connect the 4-pin audio cable from your CD-ROM drive to either CDIN1.

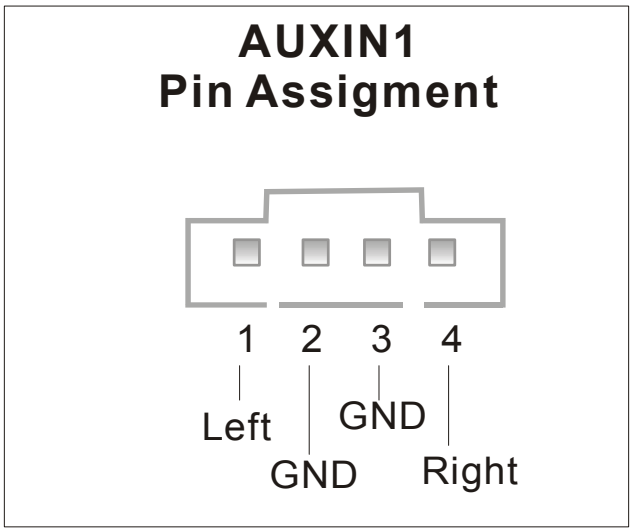
Please install according to the following pin assignment:



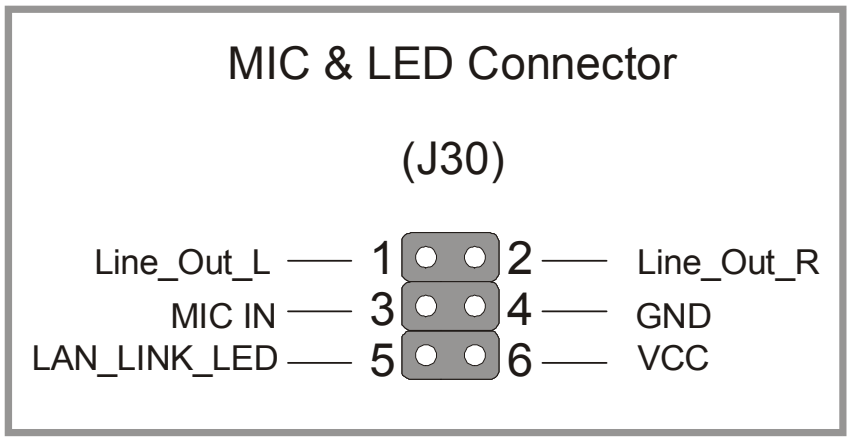
4. AUX-IN (AUXIN1)

This Motherboard provides one AUX-IN connectors. Please connect the 4-pin audio cable from your CD-ROM drive to either AUX-IN.

Please install according to the following pin assignment:



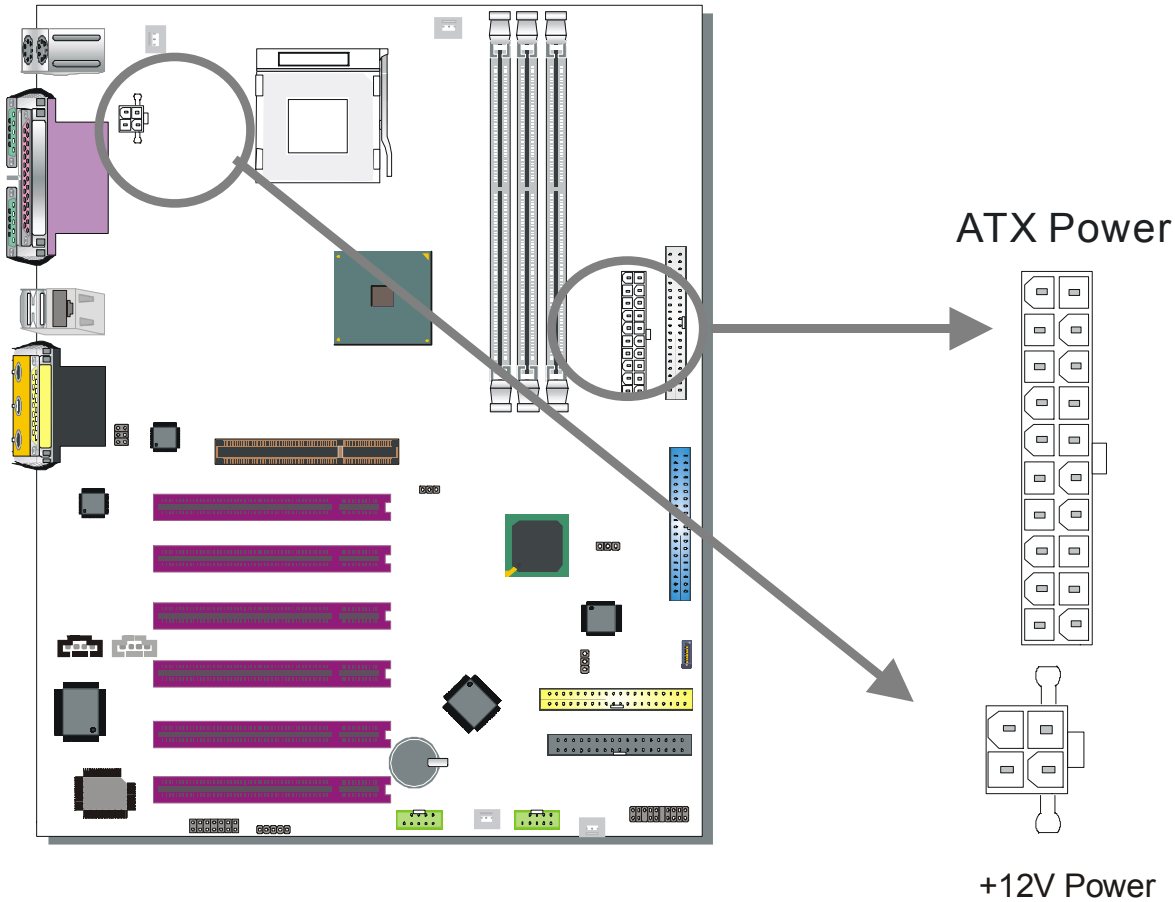
5. MIC & LED Connector (J30)



You can connect the Line-out /MIC in/LAN LED to the front panel of your PC case. (If this option is available in your PC case.)

F. ATX12V Power Supply

The ATX12V power supply includes a 20-pin ATX connector that comply with the ATX specification, Version 2.03 for M/B specification, a new 4-pin receptacle/header combination--the +12V power connector--has been defined. The presence of the +12V power connector indicates that a power supply is ATX12V; the absence of the +12V power connector indicates that a supply is ATX. Note that an ATX 12V power supply or at least 350W is required for this mainboard.

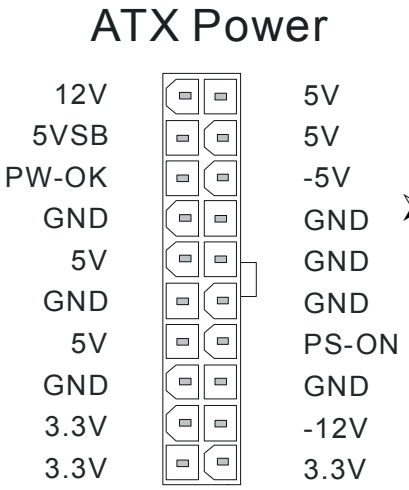


Warning: Follow these precautions to preserve your Motherboard from any remnant currents when connecting to ATX power supply:
Turn off the power supply and unplug the power cord of the ATX power supply before connecting it to the ATX Power connector.

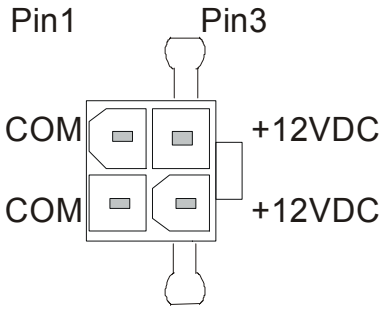
The Motherboard requires a power supply with at least 350 Watts and a "power good" signal. Make sure the ATX power supply can take at 1.5 A max current * load on the 5V Standby lead (5VSB) to meet the standard ATX specification.

*** Note**: If you use the Wake-On-LAN (WOL) function, make sure the ATX 12V power supply can support at least 720 mA on the 5V Standby lead (5VSB).

Please install the ATX power according to the following pin assignment:



➢ **Pay special care to the directionality.**

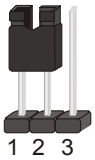


+12V Power Connector

G. CMOS Clear (JP5)

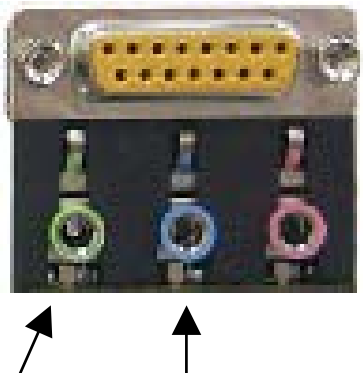
In some cases the CMOS memory may contain wrong data, follow the steps below to clear the CMOS memory.

1. Clear the CMOS memory by momentarily shorting pin 2-3 on jumper JP5. This jumper can be easily identified by its white colored cap.
2. Then put the jumper back to 1-2 to allow writing of new data into the CMOS memory.

CMOS Clearing	Clear CMOS Data	Retain CMOS Data
JP5 Setting	Short pin 2-3 for at least 5 seconds to clear the CMOS 	Short pin 1-2 to retain new settings 
Note: You must unplug the ATX power cable from the ATX power connector when performing the CMOS Clear operation.		

Audio Speakers connections

When using 2 channel speaker, connect the speaker cable to line-out.
If you're using 4 channel speaker, connect the front L/R speakers to line-out and rear L/R speakers to Line-in. make sure to set the audio software for 4 channel speaker system. Don't forget to set the Audio Rack software to 4 channel system. Line in is an available in 4 channel speaker mode.



Line-out Line-in

Audio Upgrade

The standard configuration of the P4I845PE motherboard supports 2 or 4-channel audio.

Step 5 Power On

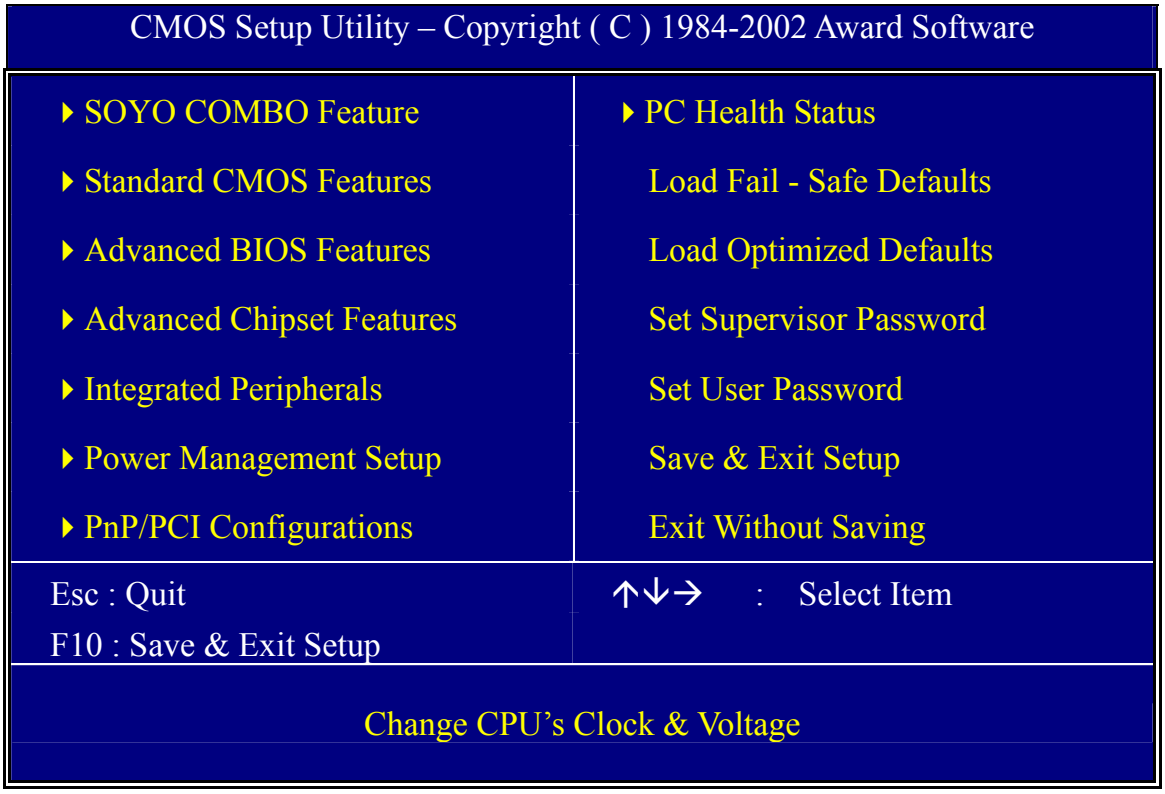
You have now completed the hardware installation of your Motherboard successfully.

1. Turn the power on
2. To enter the BIOS Setup Utility, press the <DEL> key while the system is performing the diagnostic checks,

Note: If you have failed to enter the BIOS, wait until the boot up sequence is completed. Then push the RESET button and press <DEL> key again at the beginning of boot-up, during diagnostic checks.

Repeat this operation until you get the following screen.

3. The BIOS Setup screen appears:



2-3 QUICK BIOS SETUP

This Motherboard does not use any hardware jumpers to set the CPU frequency. Instead, CPU settings are software configurable with the BIOS **[SOYO COMBO FEATURE]**. The [SOYO COMBO FEATURE] combines the main parameters that you need to configure, all in one menu, for a quick setup in BIOS.

After the hardware installation is complete, turn the power switch on, then press the <**DEL**> key during the system diagnostic checks to enter the Award BIOS Setup program. The CMOS SETUP UTILITY will be shown on the screen. Then, follow these steps to configure the CPU settings.

Step1. Select [STANDARD CMOS SETUP]

Set [Date/Time] and [Floppy drive type], then set [Hard Disk Type] to "Auto".

Step2. Select [LOAD OPTIMIZED DEFAULTS]

Select the "LOAD OPTIMIZED DEFAULTS" menu and type "Y" at the

prompt to load the BIOS optimal setup.

Step3. Select [SOYO COMBO FEATURE]

Do this step if you want to change or overclock the CPU FSB.

Set the **[CPU Frequency Select]** field to "Manual", to be able to change the CPU frequency 1 MHz stepping.

Step4. Select [SAVE & EXIT SETUP]

Press <**Enter**> to save the new configuration to the CMOS memory, and continue the boot sequence.

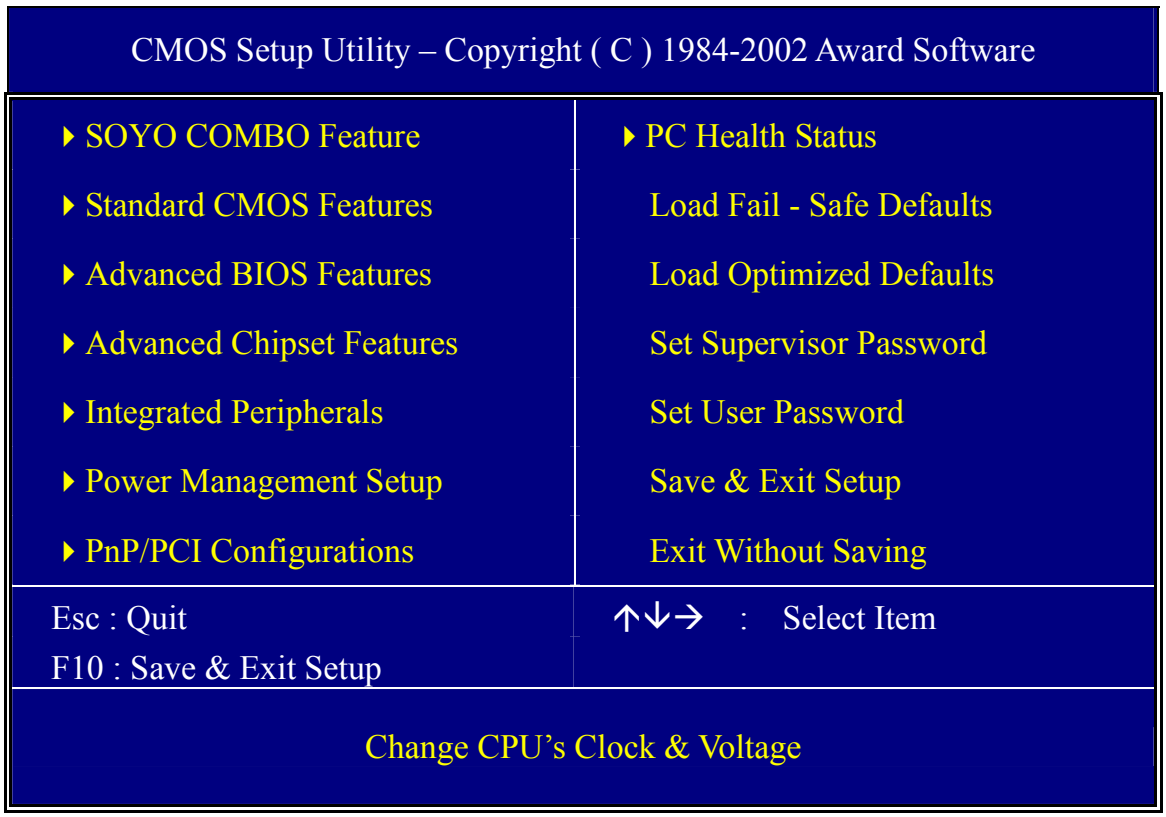
Chapter 3

BIOS SETUP UTILITY

This Motherboard's BIOS setup program uses the ROM PCI BIOS program from Award Software Inc.

To enter the Award BIOS program's Main Menu:

1. Turn on or reboot the system.
2. After the diagnostic checks, press the [Del] key to enter the Award BIOS Setup Utility.



Selecting items

- Use the arrow keys to move between items and select fields.
- From the Main Menu press arrow keys to enter the selected submenu.

Modifying selected items

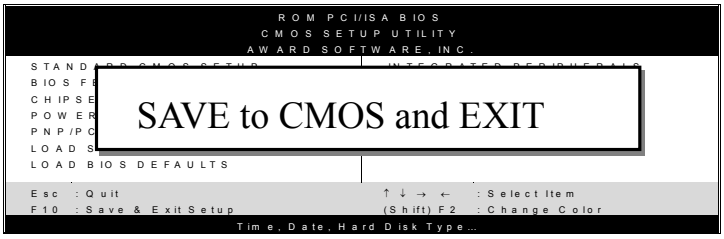
- Use the [Up]/[Down] keys to modify values within the selected fields. Some fields let you enter values directly or press Enter, then select the value.

Hot Keys: Function keys give you access to a group of commands throughout the BIOS utility.

Function	Command	Description
F1	General Help	Gives the list of options available for each item.
F5	Previous Values	Restore the old values. These are the values that the user started the current session with.
F6	Load Fail-Safe Defaults	Loads all items with the most conservative values.
F7	Load Optimized Defaults	Loads all options with the optimize values.
F10	Save	Saves your changes and reboots the system.
[Esc]	Exit	Returns at anytime and from any location to the Main Menu.
[Enter]	Select	Will display a overlapping window with all options for the current item.
[+/–/PU/PD]	Value	Using the +, –, Page Up and Page Down keys the user can toggle the value of the current item.

SAVE AND EXIT SETUP

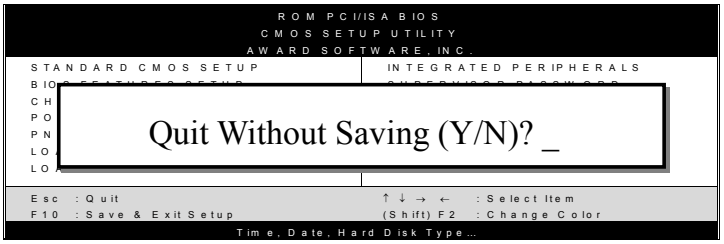
Select the [SAVE & EXIT SETUP] option from the Main Menu to save data to CMOS and exit the setup utility. This option saves all your changes and causes the system to reboot.



Type [Y] to save the changes and exit or [N] to return to the Main Menu and keep current values.

EXIT WITHOUT SAVING

Selecting the [EXIT WITHOUT SAVING] option allows you to abandon all data and exit setup, therefore ignoring all your changes.



Type [Y] to abandon changes and exit or [N] to return to the Main Menu and keep current values.

3-1 SOYO COMBO SETUP

This Motherboard does not use any hardware jumpers to set the CPU frequency. Instead, CPU settings are software configurable with the BIOS **[SOYO COMBO Feature].**

After the hardware installation is complete, turn the power switch on, then press the <DEL> key during the system diagnostic checks to enter the Award BIOS Setup program. The CMOS SETUP UTILITY will display on screen. Then, select the [SOYO COMBO Feature] option from the main menu and press the <Enter> key.

CMOS Setup Utility – Copyright (C) 1984-2002 Award Software
SOYO COMBO Feature

System Performance	Normal	Item Help
CPU Clock	Auto	Menu Level ▸
x Frequency 1MHz Stepping	100MHz	
DRAM: CPU Ratio Auto		
CPU Clock Ratio	19 x	
AGP/PCI Clock Setting	66/33 MHz fix	
x AGP/PCI Clock Table	67/33 MHz	
Auto Detect PCI Clk	Disabled	
Spread Spectrum	Disabled	
▸ Advanced DRAM Control	Press Enter	
CPU Vcore Select	Default	
DDR(2.5V) Voltage Select	Default	
AGP(1.5V) Voltage Select	Default	
Quick Power On Self Test	Enabled	
C.I.H 4-WAY Protection	Disabled	
Onboard IDE RAID	Disabled	
Onboard LAN	Enabled	
AC97 Audio	Auto	
First Boot Device	Floppy	
Second Boot Device	HDD-0	
Third Boot Device	LS-120	
Boot Other Device	Enabled	
RAID/ATA & SCSI Boot Order	RAID/ATA, SCSI	

↑↓→ Move | Enter : Select | + / - / PU / PD : Value | F10 : Save | ESC : Exit | F1: General Help
F5 : Previous Values | F6 : Fail – Safe Defaults | F7 : Optimized Defaults

The [SOYO COMBO Feature] menu combines the main parameters that you need to configure, all in one menu, for a quick setup in BIOS.

3-1.1 System Performance

	Setting	Description	Note
System Performance	Normal	Adjust your system's memory timing.	Default
	Fast		
	Turbo		
CPU Clock	Auto	Set the field to "Manual" to overclock the CPU frequency by 1MHz stepping.	Default
	Manual		
Frequency 1MHz Stepping	100MHz ~ 255MHz	Press "Page Up" / "Page Down" key to Over Clock the CPU Front Side bus in 1MHz increment or Press "Enter" key, then type the desire CPU Front Side Bus.	
DRAM: CPU Ratio	x 1	This item allow you to control the DRAM frequency.	
	x 1.25		
	x 1.33		
	Auto		Default
DRAM Frequency	Only show DRAM frequency.		
CPU Clock Ratio	8X~ 50X	The available CPU ratio you can select will depends on your CPU ID.	
AGP/PCI Clock Setting	66/33 MHz fix	Fixed the AGP/PCI clock to 66/33 regardless of CPU frequency.	Default
	Auto	Follows the current CPU FSB.	
	Manual	Choose one of the Pre-Define settings for AGP/PCI clock on the "AGP/PCI table" option below.	
AGP/PCI Clock Table	67/33 MHz	Choose one of the Pre-Defined settings for AGP/PCI clock option.	Default
	68/34 MHz		
	70/35 MHz		
	72/36 MHz		
	74/37 MHz		
	76/38 MHz		
	78/39 MHz		
	80/40 MHz		

	Setting	Description	Note
Auto Detect PCI Clk	Disabled	Disables any clock signals on not used PCI slots. For EMI purposes.	Default
	Enabled		
Spread Spectrum	Disabled	Modulates the clock signal on the CPU. For EMI purposes.	Default
	0.35%		
	0.50%		
	0.75%		
	1.00%		

3-1.2 CPU Vcore Select

	Setting	Description	Note
CPU Vcore Select	Default	This function adjust the CPU voltage.	Default
	1.100V, 1.125V, 1.150V, 1.175V, 1.200V, 1.225V, 1.250V, 1.275V, 1.300V, 1.325V, 1.350V, 1.375V, 1.400V, 1.425V, 1.450V, 1.475V, 1.500V, 1.525V, 1.550V, 1.575V, 1.600V, 1.625V, 1.650V, 1.675V, 1.700V, 1.725V, 1.750V, 1.775V, 1.800V, 1.825V, 1.850V		
DDR(2.5V) Voltage Select	Default	This function adjust the DDR Voltage.	Default
	2.60V, 2.70V, 2.80V		
AGP(1.5V) Voltage Select	Default	This function adjust the AGP Voltage.	Default
	1.60V, 1.70V, 1.80V		

3-1.3 Advanced DRAM Control

	Setting	Description	Note
DRAM Timing Selectable	By SPD	If enable the DRAM will auto detect the DRAM timing.	Default
	Manual		
CAS Latency Time	1.5	This item allows you to control the DRAM CAS Latency time.	
	2		
	2.5		Default
	3		
Active to Percharge Delay	5	This item allows you to control the DRAM Percharge Delay time.	
	6		
	7		Default
DRAM RAS# to CAS# Delay	2	This item allows you to control DRAM RAS to CAS delay time.	
	3		Default
DRAM RAS# Percharge	2	This item allow you to control DRAM RAS percharge time.	Default
	3		
Refresh Mode Select	Auto	This item allows you to control the DRAM refresh rate.	Default
	7.8us		
	15.6us		
	64us		

3-1.4 Quick Power On Self Test

	Setting	Description	Note
Quick Power On Self Test	Disabled		
	Enabled	Provides a fast POST at boot-up.	Default

3-1.5 Onboard Settings

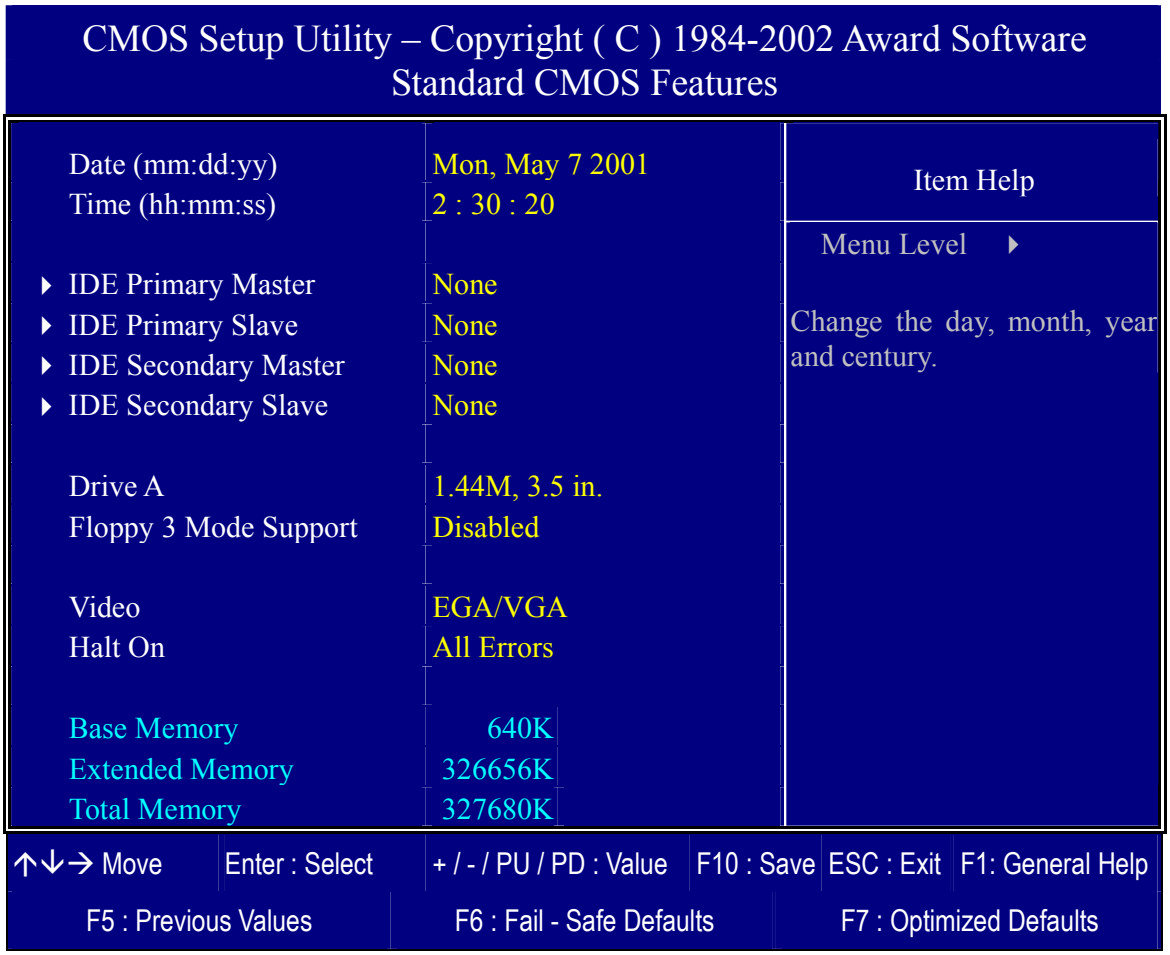
	Setting	Description	Note
C.I.H. 4-WAY Protection	Enabled	This item allows you write-protect your BIOS chip from virus. If you want to flash your BIOS, set this option to disabled	
	Disabled		Default
Onboard IDE RAID	Enabled	This item allow you to control Onboard IDE RAID.	Default
	Disabled		
Onboard LAN	Enabled	This item allows you to control Onboard LAN.	Default
	Disabled		
	Disabled	This item allow you to control Onboard Audio.	
AC97 Audio	Auto		Default

3-1.6 System Boot Control Settings

	Setting	Description	Note
First/Second /Third Boot Device	Floppy	Select Your Boot Device Priority.	
	LS/ZIP		
	HDD-0		
	SCSI		
	CDROM		
	HDD-1		
	HDD-2		
	HDD-3		
	USB-FDD		
	USB-ZIP		
	USB-CDROM		
	USB-HDD		
	LAN		
	Disabled		
Boot Other Device	Disabled	Select Your Boot Device Priority.	
	Enabled		Default
RAID/ATA & SCSI Boot Order	RAID/ATA, SCSI	Select Your Boot Device Priority.	Default
	SCSI, RAID/ATA		

3-2 STANDARD CMOS SETUP

Select the [STANDARD CMOS SETUP] option from the Main Menu and press [Enter] key.



This screen allows you to modify the basic CMOS settings.

After you have completed the changes, press [Esc] key to return to the Main Menu.

3-2.1 Date & Time

	Display	Setting	Please Note
Date	mm/dd/yyyy	Type the current date	You can also the PUp/PDn keys to toggle
Time	hh:mm:ss	Type the current time	24-hour clock format 3:15 PM is displayed as 15:15:00

3-2.2 Hard Disks Type & Mode

Choose the type and mode for the hard disks that you have already installed.

Primary (Secondary) Master & Slave	Setting	Description	Note
IDE HDD Auto-Detection	Press Enter	To auto-detect the HDD's size, head… on this channel	
IDE Primary Slave (User Type)	Auto	BIOS detects hard disk type automatically.	Default
	User	User defines the type of hard disk.	
	None		
Access Mode	Auto	BIOS detects hard disk mode automatically.	Default
	CHS	Normal IDE hard disk	<528MB
	LBA	Enhanced IDE hard disk	>528MB
	Large	Large IDE hard disk (for certain hard disk)	

Note: If you have any questions on your hard disk type or mode, ask your hard disk provider or previous user for details.

3-2.3 Floppy Drives

Floppy Drives	Setting	Description	Note
Drives A	360KB, 5.25 in.		
	1.2MB, 5.25 in.		
	720KB, 3.5 in.		
	1.44MB, 3.5 in.		Default
	2.88MB, 3.5 in.		
	None	Not installed	
Floppy 3-Mode Support	Disabled		Default
	Drive A	Supports 3-mode floppy diskette: 740KB/1.2MB/ 1.44MB on selected disk drive.	Special disk drive commonly used in Japan

3-2.4 Others Optional

	Setting	Description	Note
Video	EGA/VGA	Select the video mode.	Default
	CGA 40		
	CGA 80		
	MONO (Monochrome)		
Halt On	ALL Errors	When the BIOS detects system errors, this function will stop the system. Select which type of error will cause the system halt.	Default
	No Errors		
	All, But Keyboard		
	All, But Diskette		
	All, But Disk/Key		

3-3 ADVANCED BIOS FEATURES

Select the [Advanced BIOS Features] option from the Main Menu and press [Enter] key.

CMOS Setup Utility – Copyright (C) 1984-2002 Award Software
Advanced BIOS Features

Virus Warning	Disabled	Item Help
CPU L1 & L2 Cache	Enabled	
CPU L2 Cache ECC Checking	Enabled	Menu Level ▸
CPU Hyper-Threading	Enabled	Allows you to choose the VIRUS warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep.
Boot Up Floppy Seek	Enabled	
Boot Up NumLock Status	On	
Gate A20 Option	Fast	
Typematic Rate Setting	Disabled	
x Typematic Rate (Chars/Sec)	6	
x Typematic Delay (Msec)	250	
Security Option	Setup	
APIC Mode	Enabled	
MPS Version Control For OS	1.1	
OS Select For DRAM > 64MB	Non-OS2	
Report No FDD For WIN 95	No	
EPA LOGO SELECT	LOGO-0	
Small Logo (EPA) Show	Enabled	

↑↓→ Move | Enter : Select | + / - / PU / PD : Value | F10 : Save | ESC : Exit | F1: General Help
F5 : Previous Values | F6 : Fail - Safe Defaults | F7 : Optimized Defaults

After you have completed the changes, press [Esc] key and follow the instructions on your screen to save your settings or exit without saving.

3-3.1 Virus Warning

	Setting	Description	Note
Virus Warning	Disabled	Allows you to choose the VIRUS warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep.	Default
	Enabled		

3-3.2 Cache Memory Options

	Setting	Description	Note
CPU L1 & L2 Cache	Disabled		
	Enabled	Enables the CPU's L1 & L2 cache.	Default
CPU L2 Cache ECC Checking	Enabled	Because the CPU is faster than memory, the CPU after has to wait to complete memory access. By enabling L2 caching you will let the CPU write or read first from a very fast internal memory (the CPU cache) before accessing main memory, thereby increasing the speed of your system. The CPU will automatically update main memories from the cache.	Default
	Disabled		

3-3.3 CPU Hyper-Threading function

	Setting	Description	Note
CPU Hyper-Threading	Disabled	This item will appear if your CPU support “Hyper-Threading” function.	
	Enabled		Default

3-3.4 Boot Up Floppy Seek

	Setting	Description	Note
Boot Up Floppy Seek	Disabled	Seeks disk drives during boot up. Disabling speeds boot up.	
	Enabled		Default

3-3.5 Boot Up NumLock Status

	Setting	Description	Note
Boot Up NumLock Status	On	Puts numeric keypad in NumLock mode at boot-up.	Default
	Off	Puts numeric keypad in arrow key mode at boot-up.	

3-3.6 Gate A20 Options

	Setting	Description	Note
Gate A20 Options	Normal	A pin in the keyboard controller controls GateA20.	
	Fast	Lets chipset control GateA20.	Default

3-3.7 Typematic Settings

Typematic Settings	Setting	Description	Note
Typematic Rate Setting	Disabled	Keystrokes repeat at a rate determined by the keyboard.	Default
	Enabled	When enables , the typematic rate and typematic delay can be selected.	
The following [Typematic Rate] and [Typematic Delay] fields are active only if [Typematic Rate Setting] is set to [Enabled]			

Typematic Settings	Setting	Description	Note
Typematic Rate	6 (Char/sec) 8 (Char/sec) 10 (Char/sec) 12 (Char/sec) 15 (Char/sec) 20 (Char/sec) 24 (Char/sec) 30 (Char/sec)	Choose the rate at which a character is repeated when holding down a key.	Default
Typematic Delay	250 (msec) 500 (msec) 750 (msec) 1000 (msec)	Choose how long after you press a key down the character begins repeating.	Default

3-3.8 Security Option

Use this feature to prevent unauthorized system boot-up or use of BIOS Setup. The following table describes the security settings.

	Setting	Description	Note
Security Option	System	Each time the system is booted, the password prompt appears.	
	Setup	If a password is set, the password prompt only appears when you attempt to enter the BIOS Setup program.	Default
APIC Mode			
	Disabled	Enabled the Advanced Programmable Interrupt Controller (APIC) mode.	
	Enabled		Default
MPS Version Control for OS	1.1	Allows you to choose the Multi Processor Specification (MPS) version.	Default
	1.4		

Other Control Options

Other Control Options	Setting	Description	Note
OS Select for DRAM>64MB	OS2	When using an OS2 operating system.	
	Non-OS2	When using another, non-OS2 operating system.	Default

HDD S.M.A.R.T. Capability	Enabled	Enabled this field when your HDD supports the S.M.A.R.T. function. Consult your HDD provider for details.	
	Disabled		Default
Report No FDD For WIN 95	Yes	Windows will release IRQ line 6 (normally used by the Floppy Disk Drive) after you disable your on-board FDD and set this field to [Yes].	
	No	Windows will reserve INT 6 for your FDD, whether it is disabled or not.	Default

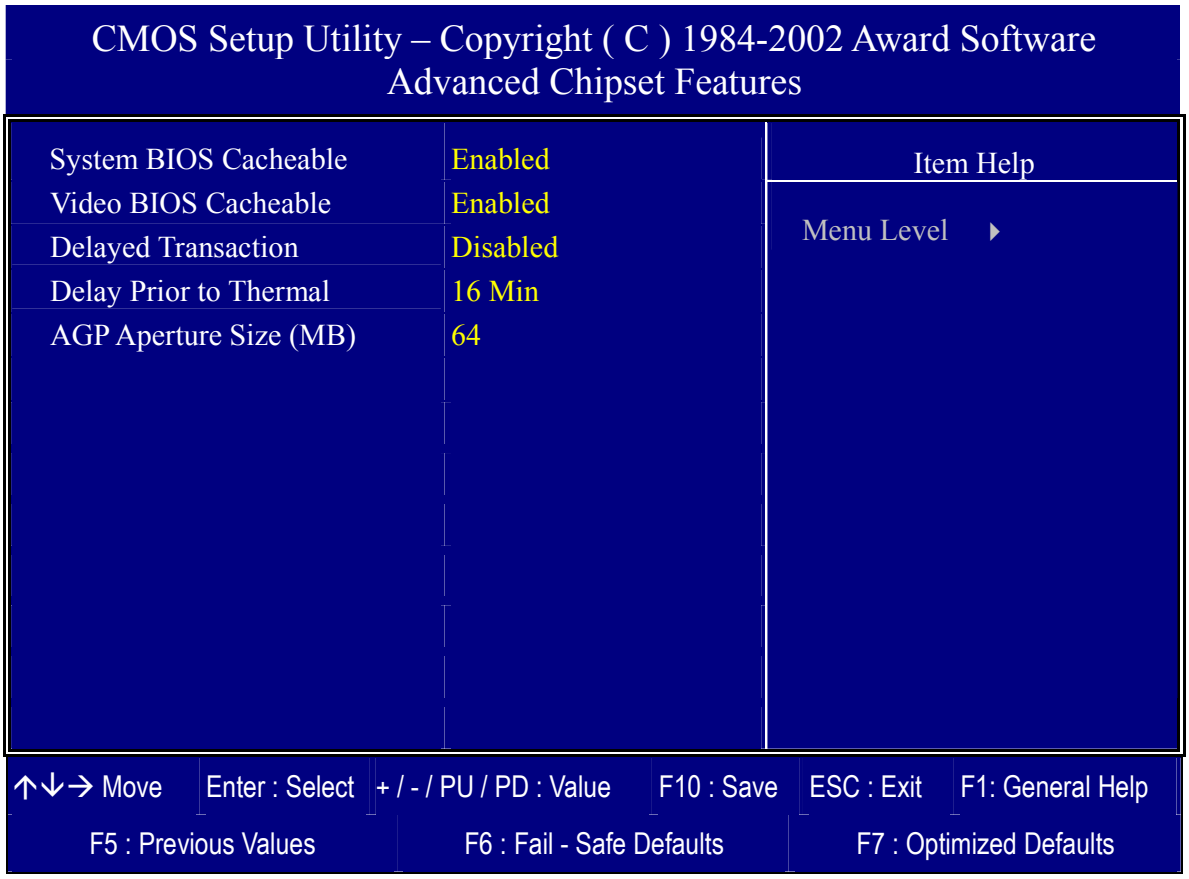
Small Logo(EPA) Show

	Setting	Description	Note
EPA LOGO SELECT	LOG0	Allows user to display SOYO logo or own logo. Logo-0 shows SOYO logo, Logo-1 shows user logo.	Default
	LOG1		
Small Logo(EPA) Show	Disabled	Set Enabled to Show Logo(EPA).	
	Enabled		Default

3-4 ADVANCED CHIPSET FEATURES

Caution: Change these settings only if you are already familiar with the Chipset.

The [Advanced Chipset Features] option changes the values of the chipset registers. These registers control the system options in the computer.



After you have completed the changes, press [Esc] and follow the instructions on your screen to save your settings or exit without saving.

The following table describes each field in the Advanced Chipset Features Menu and how to configure each parameter.

3-4.1 CHIPSET FEATURES SETUP

CHIPSET FEATURES	Setting	Description	Note
System BIOS Cacheable	Disabled		
	Enabled	The ROM area F0000H-FFFFFH is cacheable.	Default
Video BIOS Cacheable	Disabled		
	Enabled	The video BIOS C0000H-C7FFFH is cacheable.	Default
Delayed Transaction	Disabled	This item allows you to control Delay Transaction for thermal temp.	Default
Delay Prior to Thermal	4Min	Set the time for the system to decrease performance to avoid reaching maximum thermal temp. Ex. If you set it to 16 minutes the system will start decreasing the performance 16 minutes before reaching max thermal temp.	
	8Min		
	16Min		Default
	32Min		
AGP Aperture Size (MB)	256M	Select the size of Accelerated Graphics Port (AGP) aperture. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation.	
	128M		
	64M		Default
	32M		

3-5 INTEGRATED PERIPHERALS

Caution: Change these settings only if you are already familiar with the Chipset.

The [INTEGRATED PERIPHERALS] option changes the values of the chipset registers. These registers control the system options in the computer. The following screen shows setup default settings.

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Integrated Peripherals

		Item Help
On-Chip Primary PCI IDE	Enabled	
IDE Primary Master PIO	Auto	Menu Level ▸
IDE Primary Slave PIO	Auto	
IDE Primary Master UDMA	Auto	
IDE Primary Slave UDMA	Auto	
On-Chip Secondary PCI IDE	Enabled	
IDE Secondary Master PIO	Auto	
IDE Secondary Slave PIO	Auto	
IDE Secondary Master UDMA	Auto	
IDE Secondary Slave UDMA	Auto	
USB Controller	Enabled	
USB 2.0 Controller	Enabled	
USB Keyboard Support	Disabled	
Init Display First	AGP	
IDE HDD BlockMode	Enabled	
POWER ON Function	BUTTON ONLY	
x KB Power ON Password	Enter	
x Hot Key Power ON	Ctrl-F1	
Onboard FDC Controller	Enabled	
Onboard Serial Port 1	3F8/IRQ4	
Onboard Serial Port 2	2F8/IRQ3	
UART Mode Select	Normal	
x UR2 Duplex Mode	Half	
Onboard Parallel Port	378/IRQ7	
Parallel Port Mode	SPP	
x ECP Mode Use DMA	3	
PWRON After PWR-Fail	OFF	
Game Port Address	201	
Midi Port Address	330	
Midi Port IRQ	10	

↑↓→ Move | Enter : Select | + / - / PU / PD : Value | F10 : Save | ESC : Exit | F1: General Help
F5 : Previous Values | F6 : Fail - Safe Defaults | F7 : Optimized Defaults

The following tables describe each field in the INTEGRATED PERIPHERALS Menu and provide instructions on how to configure the IDE controls, FDC controls, and the onboard serial and parallel ports.

3-5.1 IDE Device Controls

IDE Controls	Setting	Description	Note
On-Chip PCI IDE ➢ **Primary** ➢ **Secondary**	Disabled	Turn off the on-board IDE	
	Enabled	Use the on-board IDE	Default
IDE ➢ **Primary Master PIO** ➢ **Primary Slave PIO** ➢ **Secondary Master PIO** ➢ **Secondary Slave PIO**	mode 0-4	0 is the slowest speed 4 is the fastest speed	
	Auto	For better performance and stability, we suggest you use the Auto setting to set the HDD control timing.	Default
IDE ➢**Primary Master UDMA** ➢**Primary Slave UDMA** ➢**Secondary Master UDMA** ➢**Secondary Slave UDMA**	Disabled		
	Auto	Select auto to autodetect UDMA support, or disabled to use DMA/PIO.	Default

3-5.2 Keyboard Controls

Keyboard Controls	Setting	Description	Note
USB Controller	Disabled		
	Enabled	Select *Enabled* if your system contains a Universal Serial Bus (USB) controller and you have USB peripherals.	Default
USB 2.0 Controller	Disabled	Select Enabled if you have USB 2.0 peripherals.	
	Enabled		Default
USB Keyboard Support	Disabled	Select Enabled if you want to use USB Keyboard in DOS.	Default
	Enabled		
Init Display First	PCI Slot	Choose which card – AGP Display card or PCI VGA card – to initialize first.	
	AGP		Default

3-5.3 IDE HDD Block Mode

	Setting	Description	Note
IDE HDD Block Mode	Disabled		
	Enabled	Invokes multi-sector transfer instead of one sector per transfer. Not all HDDs support this function.	Default

3-5.4 Others Optional

	Setting	Description	Note
POWER ON Function	Password	Enables you to wake-up the system by entering a password at the keyboard.	
	Hot KEY	You can wake-up the system by pressing the key combination of your choice (Ctrl-F1~F12).	
	Mouse Move Mouse Click Any KEY	Enables waking up the system by pressing either the right or left mouse button.	
	BUTTON-ONLY	Disables the Wake-Up by Keyboard function.	Default
	Keyboard 98		
If [POWER ON Function] is set to [Password]			
KB Power ON Password	Enter (your password)	Set the password that will wake-up your system.	
If [POWER ON Function] is set to [Hot Key]			
Hot Key Power ON	Ctrl-F1~F12	Choose the key combination that will wake-up the system. [Ctrl-F1 to Ctrl-F12]	

3-5.5 FDC Controls

FDC Controls	Setting	Description	Note
Onboard FDC controller	Disabled	Turn off the on-board floppy controller	
	Enabled	Use the on-board floppy controller	Default

3-5.6 Onboard Serial Ports

Onboard Serial Ports	Setting	Description	Note
Onboard Serial Port 1 / Serial Port 2	Disabled	Choose serial port 1 & 2's I/O address. Do not set port 1 & 2 to the same setting except for Disabled or Auto.	
	3F8/IRQ4		Default (port 1)
	2F8/IRQ3		Default (port 2)
	3E8/IRQ4		
	2E8/IRQ3		
	Auto		
UART Mode Select	Normal	The second serial port offers several special modes. It can either work as an infrared device (IrDA, ASKIR) or as a Smart Card reader (SCR).	Default
	IrDA		
	ASKIR		
	SCR		
If [UART Mode Select] is set to [IrDA]/[ASKIR]			
UR2 Duplex Mode	Half	Choose [Half] or [Duplex] to set UR2 in half duplex mode or full duplex mode respectively. Refer to your IR device specifications to select the suitable mode.	Default
	Full		

3-5.7 Onboard Parallel Ports

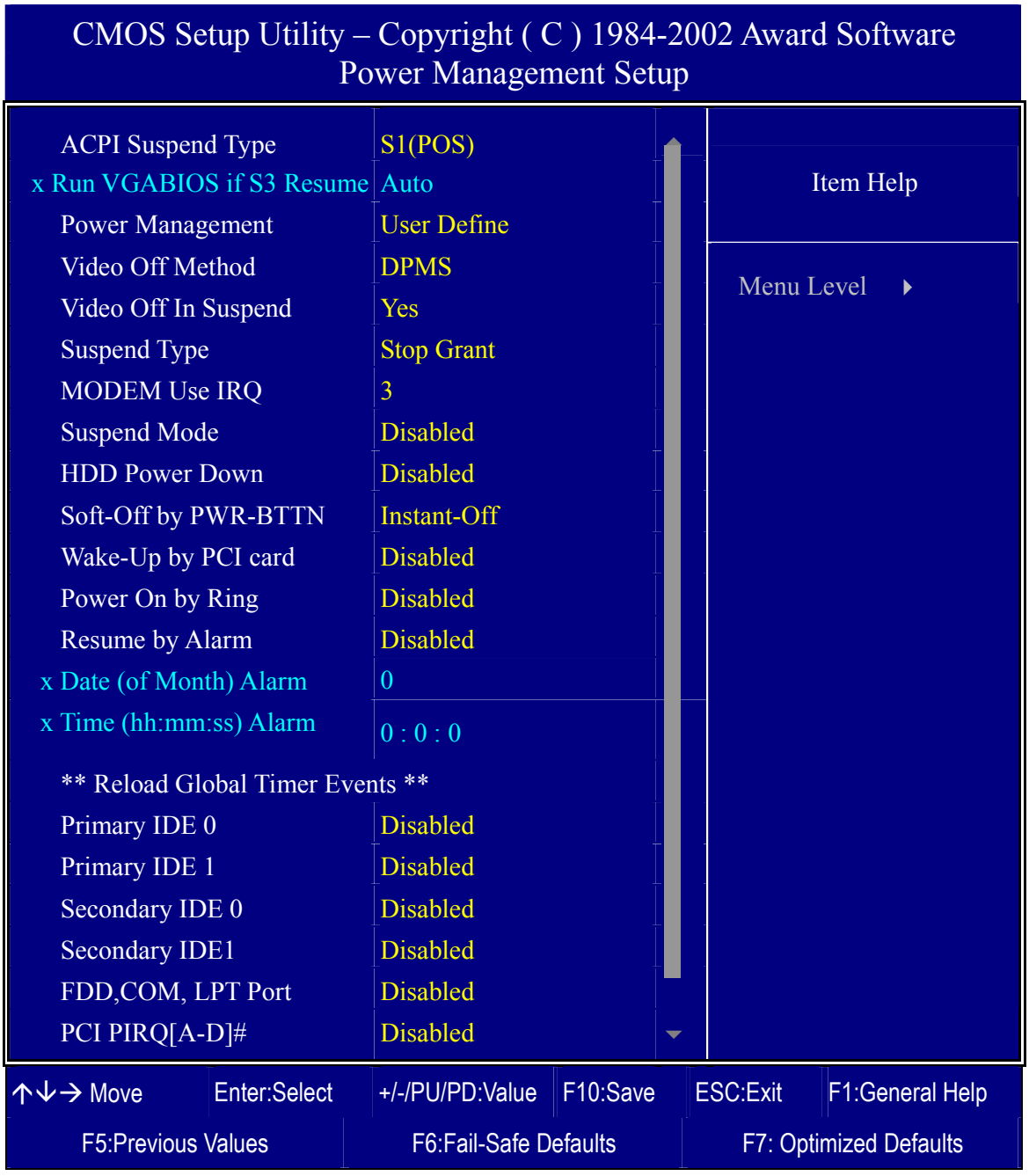
Onboard Parallel Ports	Setting	Description	Note
Onboard Parallel Port	Disabled	Choose the printer I/O address.	
	378/IRQ7		Default
	3BC/IRQ7		
	278/IRQ5		
Parallel Port Mode	SPP	The mode depends on your external device that connects to this port.	Default
	EPP		
	ECP		
	ECP+EPP		
If [Parallel Port Mode] is set to [ECP] mode			
ECP Mode use DMA	3	Choose DMA3	Default
	1	Choose DMA1	

3-5.8 Others Optional

	Setting	Description	Note
PWRON After PWR-Fail	On	The system will switch on when power comes back after a power failure.	
	Off	The system will remain off when power comes back after a power failure.	Default
	Former-Sts	The system will return to the state it was in before the power failure when power returns. (i.e: If the system was on, it will switch on again, if it was off, it will remain off)	
Game Port Address	Disabled	Set the I/O base address for the ON board game port.	
	201		Default
	209		
Midi Port Address	Disabled	Set the I/O address for the on board Midi port here.	
	330		Default
	300		
If [Midi Port Address] is set to [330]/[300] mode			
Midi Port IRQ	5	Select the IRQ that the Midi port uses.	
	10		Default

3-6 POWER MANAGEMENT SETUP

The [POWER MANAGEMENT SETUP] sets the system's power saving functions.



After you have completed the Power Management Setup, press [Esc] to return to the Main Menu.

3-6.1 Power Management Controls

Power Management Controls	Setting	Description				Note
ACPI Suspend Type	S1(POS)	This item allows you select suspend mode.				Default
	S3(STR)					
	S1 & S3					
Run VGABIOS if S3 Resume	Auto	Some OS (win xp/2k) require to load VGABIOS after resume from S3.				Default
	Yes					
	No					
Power Management	User Define	Lets you define the HDD and system power down times.				Default
		Doze timer	Standby timer	Suspend timer	HDD power down	
	Min Saving	1 Hour	1 Hour	1 Hour	15 Min	
	Max Saving	1 Min	1 Min	1 Min	1 Min	
Video Off Method	V/H Sync+Blank	Selects the method by which the monitor is blanked.				
	Blank screen					
	DPMS					Default
Video Off In Suspend	Yes	This determines the manner in which the monitor is blanked.				Default
	No					
Suspend Type	Stop Grant	The system can wake up through external events.				Default
	PwrOn Suspend	The system can only wake up through the Power-Button.				
MODEM Use IRQ	3	Assigns an IRQ# to the modem device.				Default
	3-11, NA					
Suspend Mode	Disabled					Default
	1Min-1Hour	When the set time has elapsed, BIOS sends a command to the system to enter Standby Mode.				

Power Management Controls (Continued)

Power Management Controls	Setting	Description	Note
HDD Power Down	Disabled		Default
	1-15Min	When the set time has elapsed, BIOS sends a command to the HDD to power down. This turns off the HDD motor.	Some older model HDDs may not support this advanced function.
Soft-Off by PWR-BTTN	Instant-off	Turns off the system power instant after pushing the power button.	Default
	Delay 4 Sec.	Turns off the system power 4 seconds after pushing the power button.	
Wake-Up by PCI card	Disabled	If enabled any PCI interrupt will wake up the system.	Default
	Enabled		
Power On by Ring	Disabled		Default
	Enabled	The system will self-power on me when the modem is ringing.	
Resume by Alarm	Disabled	The system ignores the alarm.	Default
	Enabled	Set alarm to power on the system by the date (1-31) or time (hh:mm:ss). If the date is set to [0], the system will self-power on by alarm everyday at the set time.	

3-6.2 Reload Global Timer Events

Power Down & Resume Events	Setting	Description	Note
IDE0, IDE1 ➢ **Primary** ➢ **Secondary**	Disabled		Default
	Enabled	In effect, the system remains alert for anything which occurs to a device which is configured as *Enabled*.	
FDD, COM, LPT Port	Disabled		Default
	Enabled	In effect, the system remains alert for anything which occurs to a device which is configured as *Enabled*.	
PCI PIRQ [A-D]#	Disabled		Default
	Enabled	The system monitors these elements for activity. The system will resume if [IRQ activity] is detected.	

3-7 PNP/PCI CONFIGURATION SETUP

This option sets the Motherboard's PCI Slots.

CMOS Setup Utility – Copyright (C) 1984-2002 Award Software
PnP/PCI Configurations

Reset Configuration Data	Disabled	Item Help
Resources Controlled By	Auto (ESCD)	Menu Level ▸
x IRQ Resources	Press Enter	Default is Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the OS cannot boot.
PCI/VGA Palette Snoop	Disabled	
Assign IRQ For VGA	Enabled	
Assign IRQ For USB	Enabled	
INT Pin 1 Assignment	Auto	
INT Pin 2 Assignment	Auto	
INT Pin 3 Assignment	Auto	
INT Pin 4 Assignment	Auto	
INT Pin 5 Assignment	Auto	
INT Pin 6 Assignment	Auto	
INT Pin 7 Assignment	Auto	
INT Pin 8 Assignment	Auto	

↑↓→ Move	Enter:Select	+/-/PU/PD:Value	F10:Save	ESC:Exit	F1:General Help
F5:Previous Values	F6:Fail-Safe Defaults	F7: Optimized Defaults			

Note: Starred (*) items will disappear when the [Resources Controlled By] option is set to [Auto].

After you have completed the PCI Slot Configuration, press [Esc] and follow the instructions on your screen to save your settings or exit without saving.

3-7.1 PNP/PCI Configuration Controls

PNP/PCI Controls	Setting	Description	Note
Reset Configuration Data	Disabled	Retain PnP configuration data in BIOS.	Default
	Enabled	Reset PnP configuration data in BIOS.	
Resources Controlled By	Manual	BIOS does not manage PCI/ISA PnP card IRQ assignment.	
	Requires to assign IRQ-# and DMA-# to PCI or ISA PnP manually. IRQ-3,4,5,7,9,10,11,12,14,15 assigned to: _ DMA-0,1,3,5,6,7 assigned to: _		
	Auto (ESCD)	The Plug-and-Play BIOS auto manages PCI/ISA PnP card IRQ assignment automatically.	Default
If [Resources Controlled By] is set to [Manual]			
IRQ-# assigned to:	PCI device	Choose IRQ# assigned to PCI/ISA PnP card.	Default
	Reserved	Reserved IRQ	
Under this item the user can assign an IRQ to a PCI slot. However, there under some conditions the IRQ will not be assigned as selected under this item: 1. IRQs 0, 1, 2, 6, 8, 13 can NOT be assigned, because they are fixed. 2. IRQs 5, 9, 10, 11 are available 3. IRQs 3,4,7,12,14 and 15 will only be assigned if they are free. See the table below on how to free them:			

PNP/PCI Configuration Setup (Continued)

PNP/PCI Setup	Setting	Description	Note
Interrupt Line	How to set the BIOS to release the IRQ to the PnP Interrupt pool:		
	PnP / PCI configuration	Integrated Peripherals	
IRQ 15	IRQ 15: **PCI / ISA PnP**	On-Chip Secondary PCI IDE: **disabled**	
IRQ 14	IRQ 14: **PCI / ISA PnP**	On-Chip Primary PCI IDE: **disabled**	
IRQ 12	IRQ 12: **PCI / ISA PnP**	*Interrupt 12 will be released by the PnP BIOS automatically if the PS/2 Mouse Port is not used.*	
IRQ 7	IRQ 7: **PCI / ISA PnP**	Onboard parallel port: **disabled**	
IRQ 4	IRQ 4: **PCI / ISA PnP**	Onboard Serial port 1: **disabled**	
IRQ 3	IRQ 3: **PCI / ISA PnP**	Onboard Serial port 2: **disabled**	
4. Your OS may reassign another interrupt to a PCI slot after BIOS passes control to the OS, especially if you use Windows 95, 98 or NT.			
Assign IRQ For VGA/USB	Disabled	BIOS will assgin IRQ for VGA/USB port.	
	Enabled	BIOS won't assign IRQ for VGA/USB port.	Default
5. Your OS may reassign another interrupt to a PCI slot after BIOS passes control to the OS, especially if you use Windows 95, 98 or NT.			
INT Pin 1/2/3/4 Assignment	Auto	Set to Auto the BIOS will using IRQs Automatically.	Default

3-7.2 MULTI I/O ADDRESSES

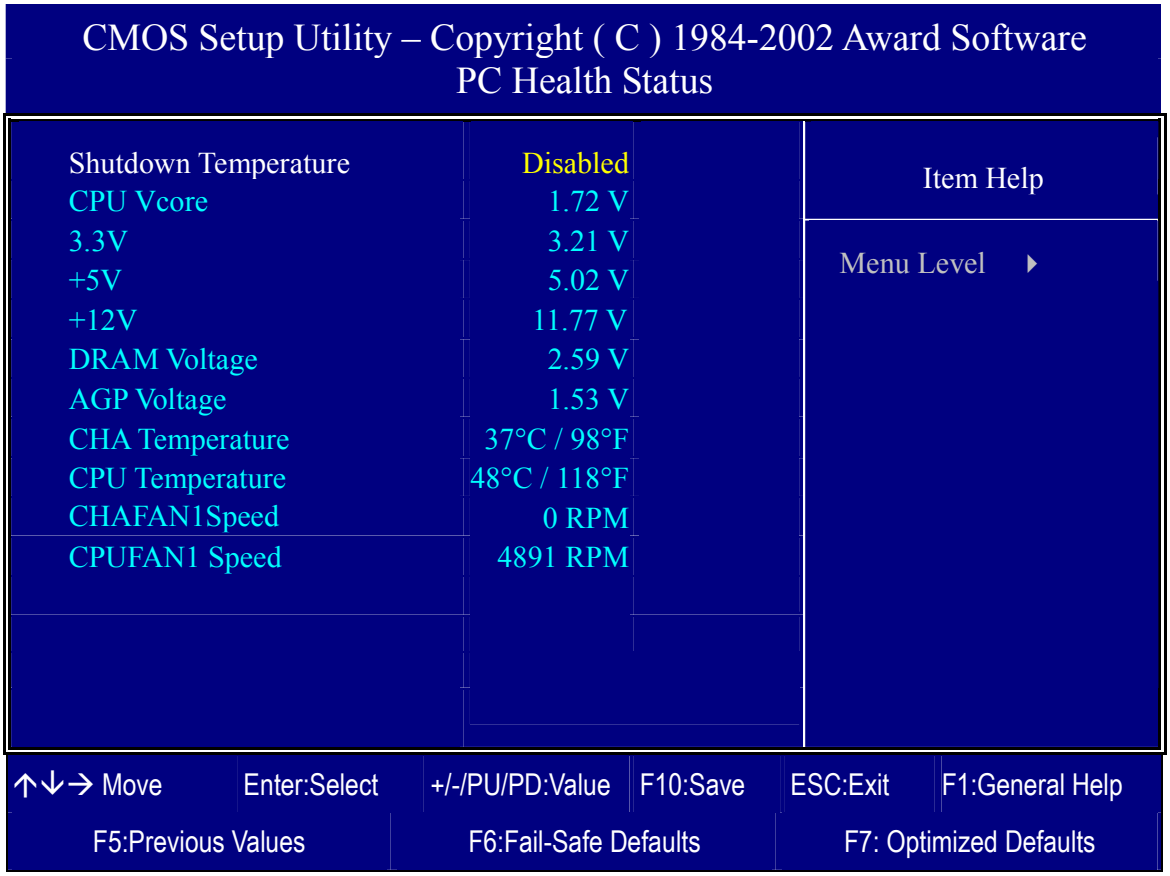
Default settings for multi-I/O addresses are as follows:

Port	I/O Address	IRQ	Status
LPT1	378H	7	ECP/EPP
COM1	3F8H	4	
COM2	2F8H	3	

Warning: If a default I/O address conflicts with other I/O cards such as sound card, you must change one of the I/O addresses to remedy to this address conflict. (I/O addresses can be adjusted from the BIOS Setup Utility)

3-8 PC HEALTH STATUS

This option sets the Motherboard's PC Health Status.



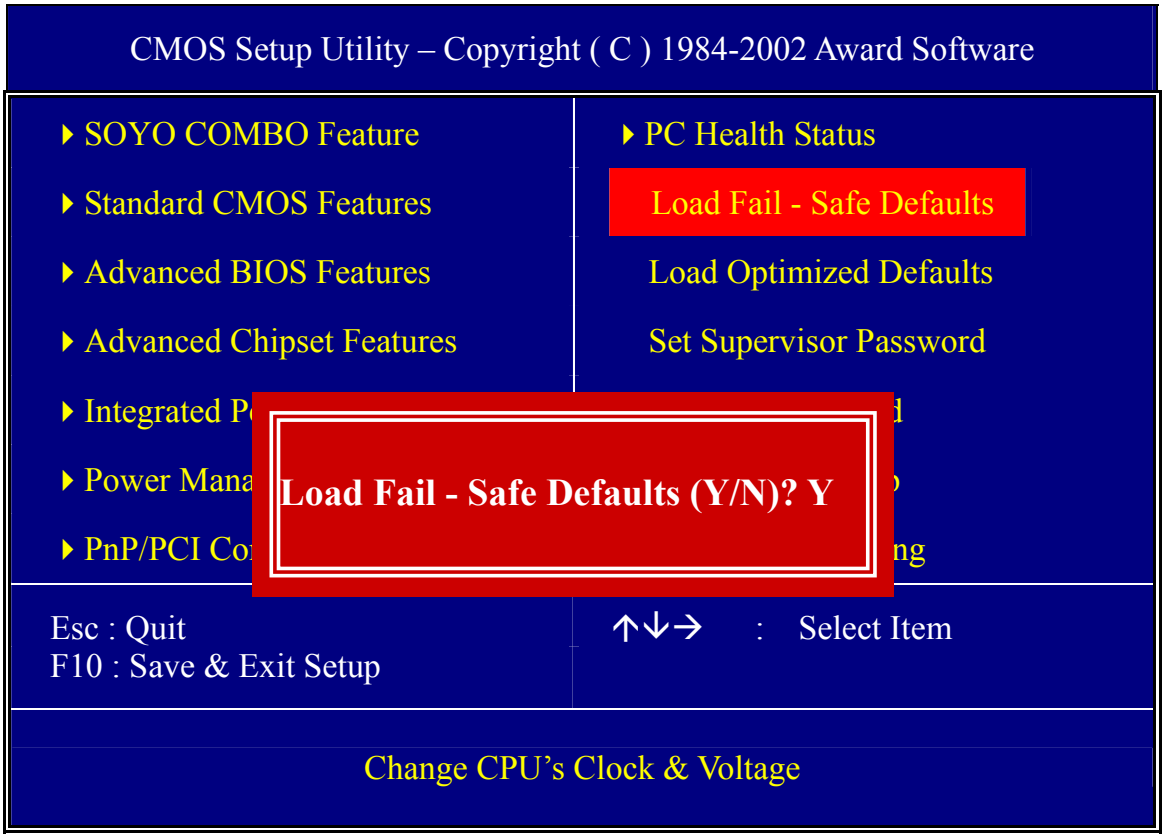
Note: Starred (*) items will disappear when the [Resources Controlled By] option is set to [Auto].

3-8.1 CPU Device Monitoring

CPU Device Monitoring	Setting	Description	Note
Shutdown Temperature	Disabled 50°C/122°F, 55°C/131°F, 60°C/140°F, 65°C/149°F, 75°C/167°F, 80°C/176°F	This item allows you to set up the CPU shutdown Temperature. This item only effective under Windows 98 ACPI mode.	Default
+3.3V, +5V, +12V, DRAM Voltage, AGP Voltage, CPU Vcore	V	Show the current voltage status.	
CHA Temperature	°C/°F	Show the current status of the system temperature.	
CPU Temperature	°C/°F	Show the current status of CPU temperature.	
CHAFAN1 Speed	RPM	Show you the current CHAFAN operating speed.	
CPUFAN1 Speed	RPM	Show you the current CPUFAN operating speed.	

3-9 LOAD FAIL-SAFE DEFAULTS

Select the [Load Fail-Safe Defaults] option from the Main Menu to load the system values you have previously saved. This option is recommended if you need to reset the system setup and to retrieve the old values.

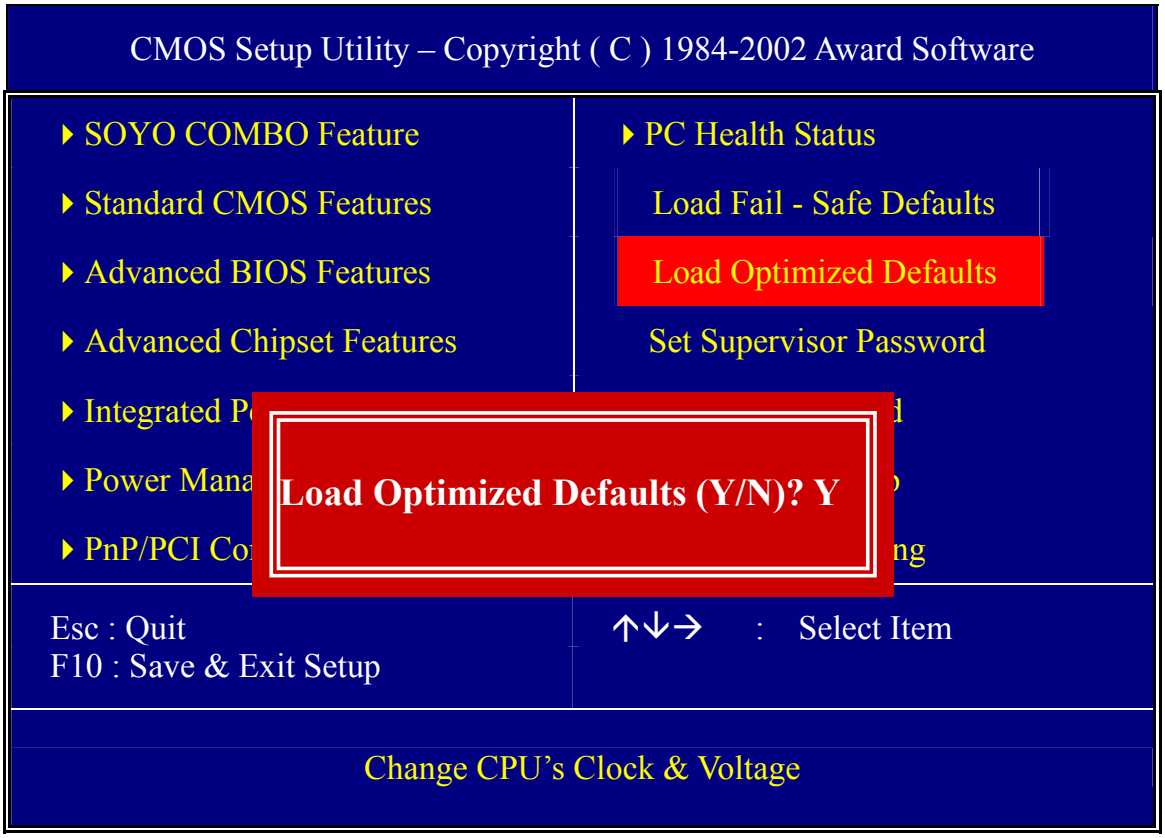


Type [Y] to use the Setup Defaults followed by [Enter] or otherwise [N] to return to the Main Menu and keep current values.

Warning: If you run into any problem after changing the BIOS configuration, please load the Fail-Safe Defaults for stable performance.

3-10 LOAD OPTIMIZED DEFAULTS

Select the [Load Optimized Defaults] option from the Main Menu to load the system values you have previously saved. This option is recommended if you need to reset the system setup and to retrieve the old values.



Type [Y] to use the Setup Defaults followed by [Enter] or otherwise [N] to return to the Main Menu and keep current values.

Warning: If you run into any problem after changing the BIOS configuration, please load the Optimized Defaults for optimized performance.

3-11 SUPERVISOR PASSWORD

Based on the setting you have made in the [Security Option] of the [Advanced BIOS Feature] section, the password prevents access to the system or the setup program by unauthorized users. Follow this procedure to set a new password or disable the password:

1. Choose [Advanced BIOS Feature] in the Main Menu and press [Enter]. Select the [Security Options] item and set the field to:

a. [System]: The password is required every time the system is booted. This means only a person who knows the password can use this computer.

b. [Setup]: The password is required only when you attempt to enter the BIOS Setup program.

2. Choose [SUPERVISOR PASSWORD] from the Main Menu and press [Enter]. The following prompt appear:

Enter Password:

Warning: If you forget or lose the password, the only way to access the system is to set jumper JP5 to clear the CMOS RAM. All setup information is lost and you must run the BIOS setup program again.

Note: If you do not wish to use the password function, press [Enter] directly and the following message appears:

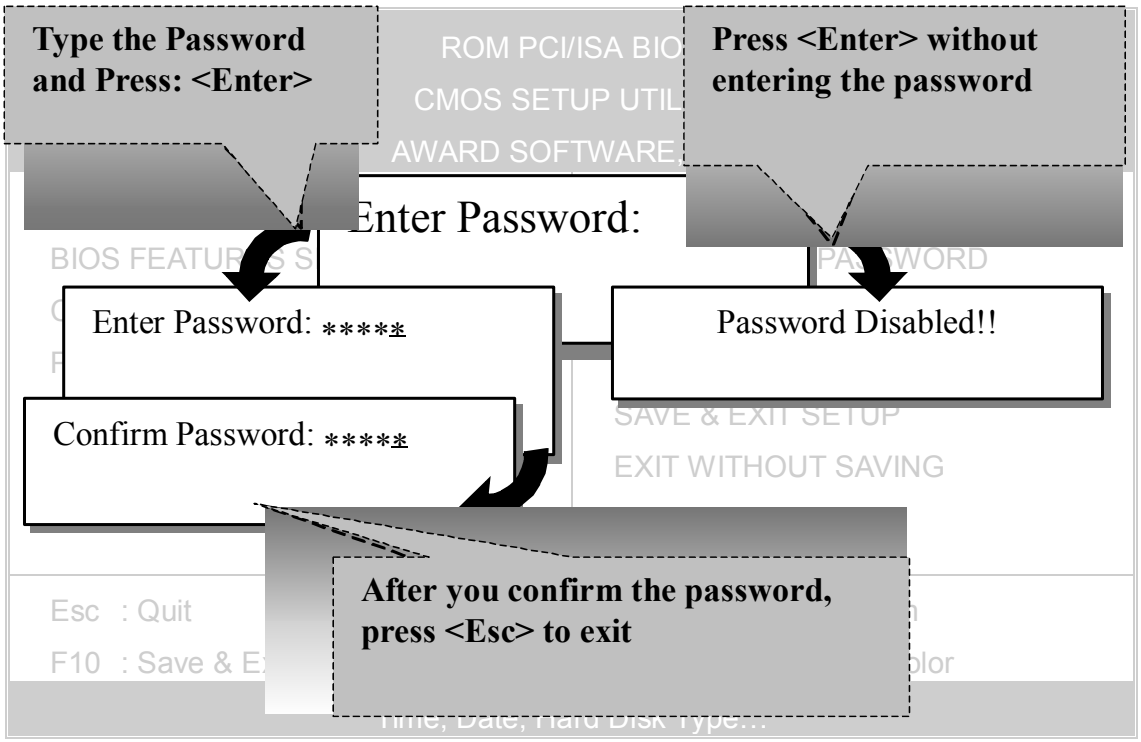
Password Disabled!!

3. Enter your new password and press [Enter]. The following message appears, prompting to confirm the new password:

Confirm Password:

4. Re-enter your password and then press [Enter] to exit to the Main Menu.

This diagram outlines the password selection procedure:



3-12 USER PASSWORD

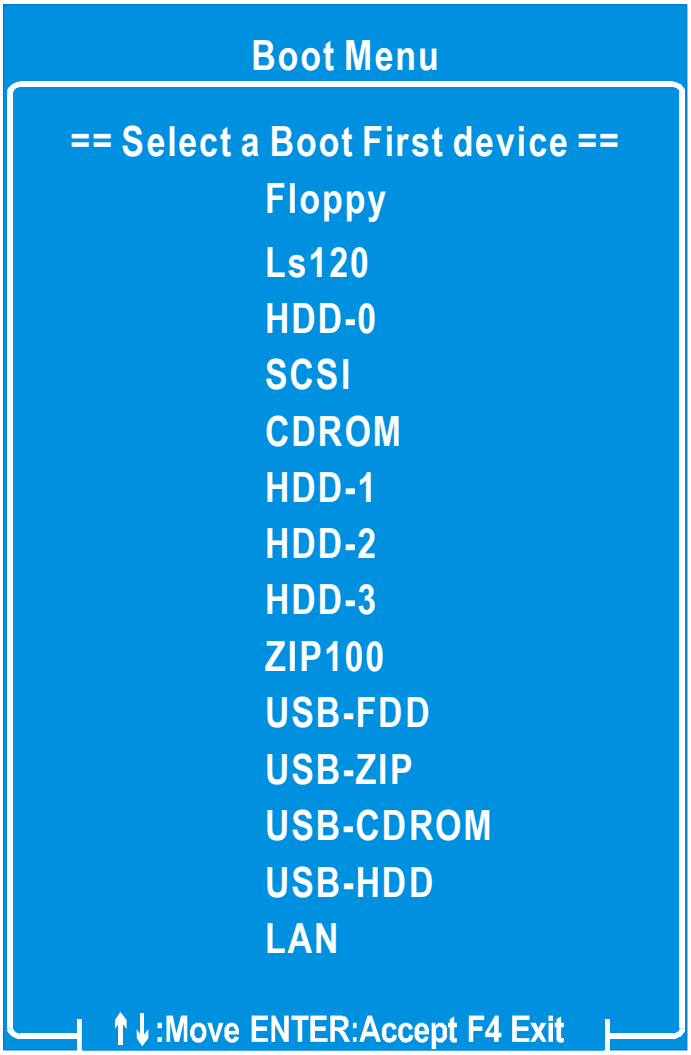
When the user password option is on, you are not allowed to change any setting in the [CMOS SETUP UTILITY] except for changing the user's password.

The password setting procedure is similar to that for the [SUPERVISOR PASSWORD] (Refer to section 3-9).

Boot Menu

Boot Menu enables user to boot-up on different boot device without going into the BIOS setup.

*To enable boot Menu, press **"ESC"** after memory initialization, user will see a device menu, in which user can choose on which device they wish to boot from.*



Chapter 4

DRIVERS INSTALLATION

The SOYO-CD will Auto Run only in Windows Base Operating System.

Your SY-P4I845PE Motherboard comes with a CD-ROM labeled "SOYO CD". The SOYO CD contains

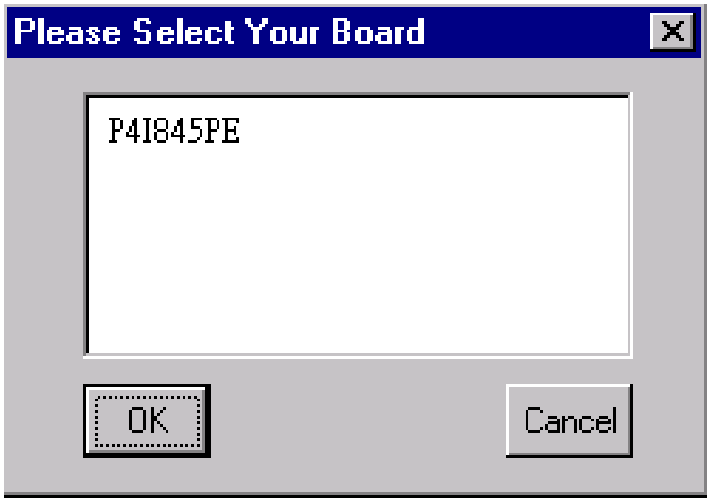
a. The user's manual for your new motherboard in PDF format,

b. The drivers software available for installation, and

c. A database in HTML format with information on SOYO motherboards and other products.

Step 1. Insert the SOYO CD into the CD-ROM drive

If you use Windows NT or 2000, the SOYO-CD will not detect your motherboard type. In that case the following dialog will pop up, please choose your motherboard and press OK. Now the SOYO-CD Start Up Menu will be shown.



(SOYO CD Start Up Program Menu)

If you use Windows 95/98/98SE/ME, the SOYO CD Start Up Program automatically detects which SOYO Motherboard you own and displays the corresponding model name.

The user's manual files included on the SOYO CD are in PDF (Postscript Document Format). In order to read a PDF file, the appropriate Acrobat Reader software must be installed in your system.

Note: The Start Up program automatically detects if the Acrobat Reader utility is already present in your system, and otherwise prompts you on whether or not you want to install it. You must install the Acrobat Reader utility to be able to read the user's manual file. Follow the instructions on your screen during installation, then once the installation is completed, restart your system and re-run the SOYO CD.

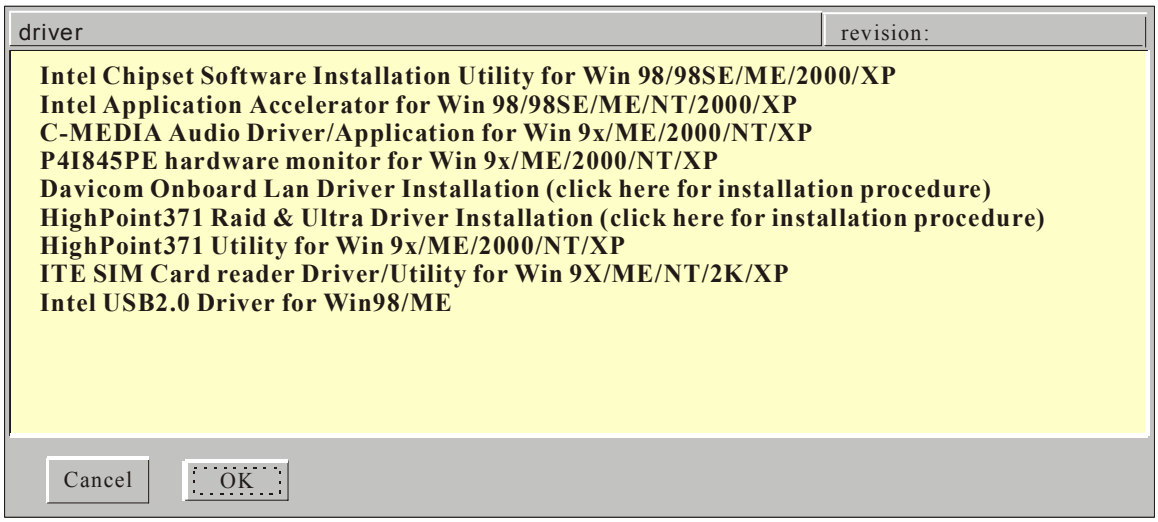
Step 2. Install Drivers and Utilities

Drivers that are needed to install for the system to operate properly

1. Intel Chipset Software Installation Utility for Win 98/98SE/ME/NT/XP
2. C-Media 8738 audio driver
3. HighPoint Utility for the on-board RAID function

The rest of the available driver is optional.

Highlight the driver you want to install and then click ok. The Start Up program displays the drivers available for the particular model of Motherboard you own. We recommend that you only install those drivers Click the ***Install Drivers*** button to display the list of drivers software that can be installed with your Motherboard. The Start Up program displays the drivers available for the particular model of Motherboard you own. We recommend that you only install those drivers.



(Driver Installation Menu)

A short description of all available drivers follows:

- **Intel Chipset Software Installation Utility for Win 98/98SE/ME/2000/XP**

Windows operating system will not recognize the new INTEL 845PE chipset properly. To update the necessary .inf files that will help Windows recognize the 845PE chipset, please run this utility.

- **Intel Application Accelerator for Win 98/98SE/ME/NT/2000/XP**

The Intel(R) Application Accelerator is designed to improve performance of

the IDE sub-system and overall system performance. Several components will be available only on Pentium(R) 4 processor-based systems running Microsoft Windows 2000 Professional. Software installation is flexible and fully automated for Microsoft Windows 98, Windows 98 Second Edition(SE),Windows 98 Millennium Edition(Me), Windows NT4.0, and Windows 2000 operating systems.

- **C-MEDIA Audio Driver/Application for Win 9x/ME/2000/NT/XP**

1. The driver supports 2/4 speakers 3D positional audio.
2. The application includes the ***CD Player/MIDI Player/MP3/Wave Player/Mixer*** to control your PC's audio functions.

- **P4I845PE hardware doctor for Win 9x/ME/2000/NT/XP**

Your motherboard comes with a hardware monitoring IC. By installing this utility Temperature, Fan speed and Voltages can be monitored.

- **HighPoint371 Utility for Win 9x/ME/2000/NT/XP**

The RAID Administrator utility is used to monitor or perform maintenance on a RAID Administrator Mirror (RAID 1) or Stripe (RAID 0). Visual messages are available to warn of possible problems with the disk array or controller.

- **ITE SIM card reader Driver/Utility for Win 9x/ME/NT/2K/XP**

Driver to support the smart card reader. You need to install this if you use the SCR.

- **Intel USB2.0 Driver for Win98/ME**

This setup program will install the driver for Intel USB2.0 Host Controller. If you don't, your USB controller only works with USB1.1 devices.

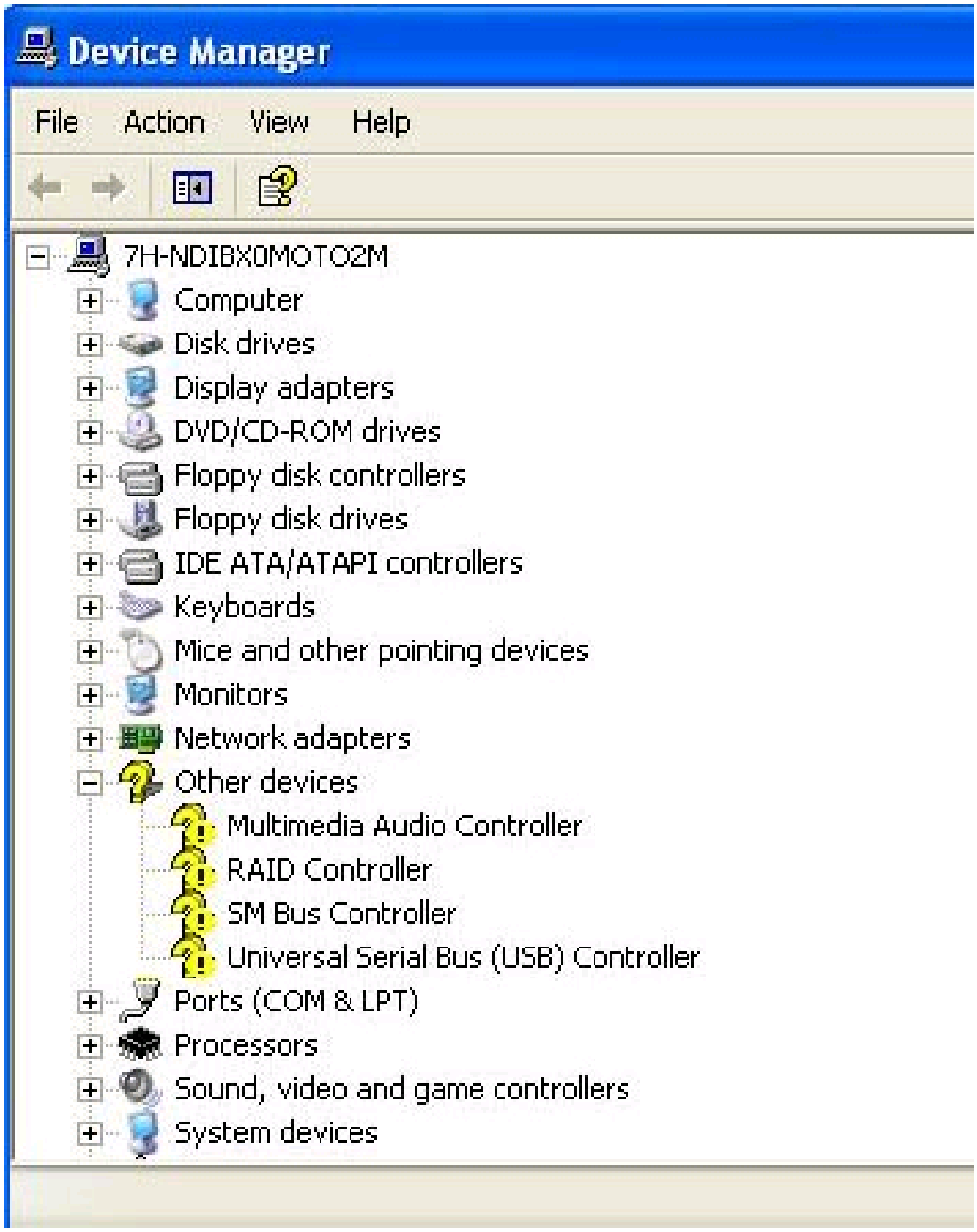
Select which driver you want to install and click ***OK,*** or click ***Cancel*** to abort the driver installation and return to the main menu.

Note : Once you have selected a driver, the system will automatically exit the SOYO CD to begin the driver installation program. When the installation is complete, most drivers require restart or your system before they become active.

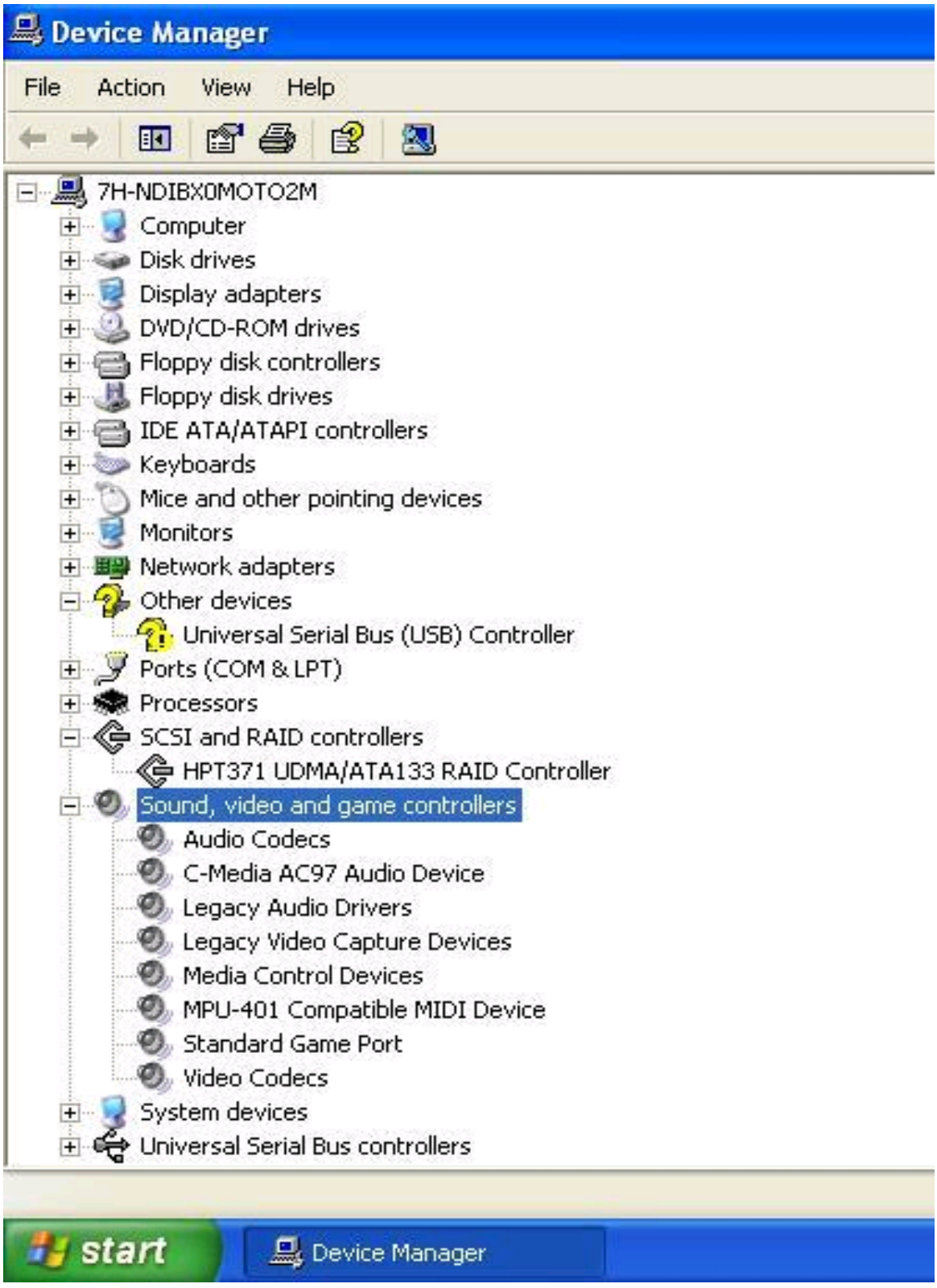
Step 3. Check the Latest Releases

Click the 'Check the latest Releases' button to go the SOYO Website to automatically find the latest BIOS, manual and driver releases for your motherboard. This button will only work if your computer is connected to the internet through a network or modem connection. Make sure to get your internet connection up before clicking this button.

After Windows XP installation, your device manager should look like this:

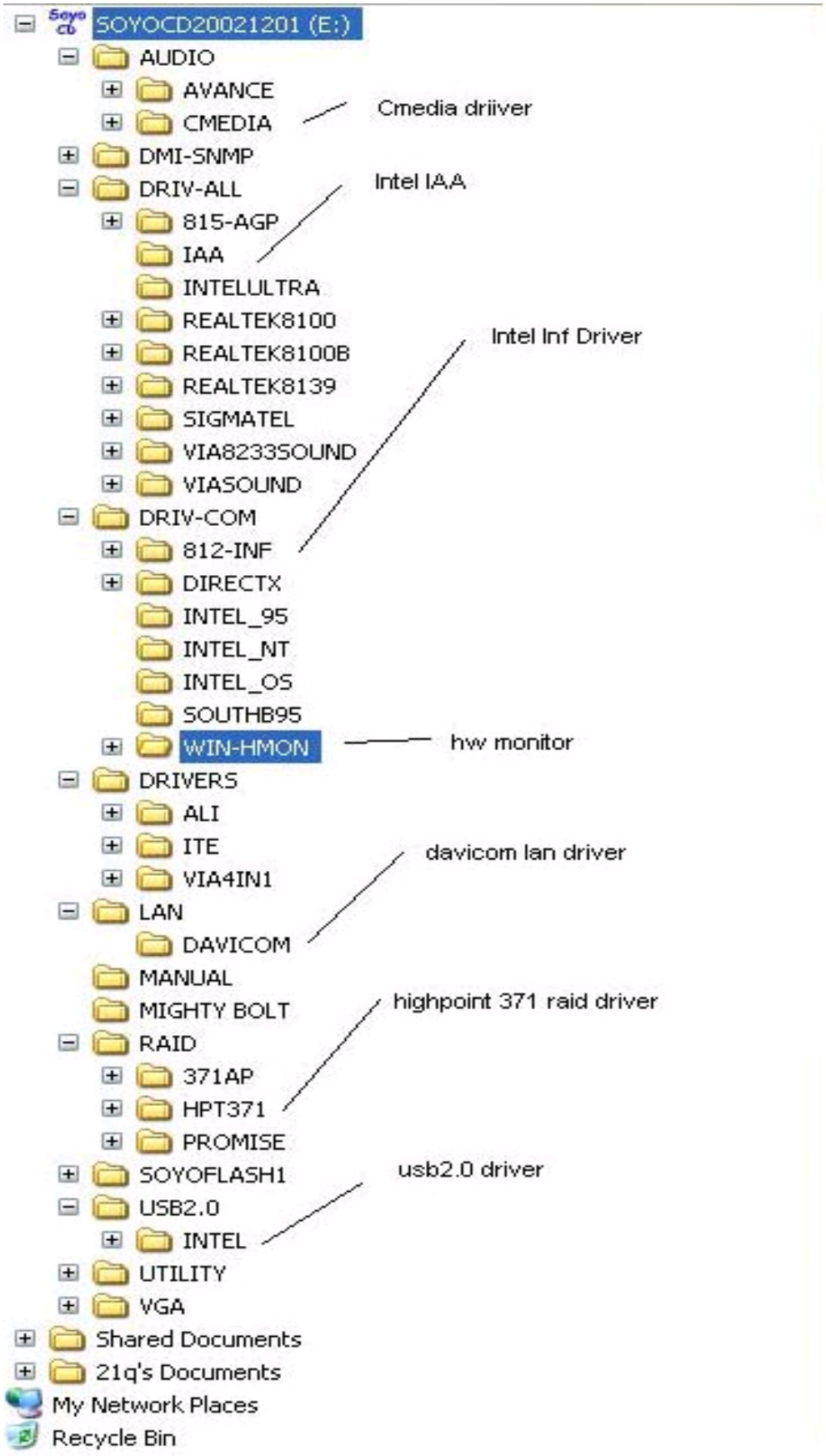


After driver installation, your Windows XP device manager should look like this:



Note: To install the USB 2.0 driver, please update to Windows XP service pack 1

Drivers directory list in the CD driver



Chapter 5

DAVICOM ONBOARD LAN DRIVER INSTALLATION

Installing the Davicom Onboard LAN Drivers under Windows 98SE

1. Move the cursor to my computer icon.
2. Click mouse right button then select “properties”.
3. Click “Device Manager”, then click “other devices”.
4. Select “PCI Ethernet Controller”, then Double click it.
5. You will see the “Driver” item above this windows, then click it.
6. Click on “Update Driver”.
7. Click on “Next”.
8. Select the following directory.
9. The directory is in SOYO CD “d:\LAN\Davicom” (where D: is your CD-ROM) then click ok you will need the windows 98 Second Edition CD to complete the installation.
10. After informing Windows of the driver directory the driver will be installed. Restart your system after installation.

Installing the Davicom Onboard LAN Drivers under Windows ME

1. Move the cursor to my computer icon.
2. Click mouse right button then select “properties”.
3. Click “Device Manager”, then click “Network adapters”.
4. Select “PCI Ethernet Controller”, then Double click it.
5. You will see the “Driver” item above this windows, then click it.
6. Click on “Update Driver”.
7. Click on “Next”.

8. Select the following directory.
9. The directory is in SOYO CD:" D:\LAN\Davicom" (where D: is your CD-ROM) and click ok.
10. After informing windows of the driver directory the driver will be installed Restart your system after installation.

Installing the Davicom Onboard LAN Drivers under Windows NT

1. Double click the Network icon in the control panel then click "Yes".
2. Click on "Next".
3. Click on "Select from list".
4. Click on "Have Disk".
5. The install Driver dialog box will appear and request the path of the location of the drivers to be installed. Enter "D:\LAN\Davicom" (where D: is your CD-ROM) then press "ok".
6. You will need the Windows NT CD to complete the installation.
7. After installing Windows NT will display a dialog box asking you to restart your system, click "Yes".

Installing the Davicom Onboard LAN Drivers under Windows 2000

1. Move the cursor to my computer icon.
2. Click mouse right button then select "properties".
3. Select "Hardware" item, click it.
4. Select "Device Manager", click it.
5. Under "Other Device" you will see a yellow Mark, then Double click "Ethernet controller".
6. Click on "Reinstall Driver".
7. Click on "Next".
8. Click on "Next".
9. The LAN driver directory on the SOYO CD is "d:\LAN\Davicom". (where D: is your CD-ROM)

Installing the Davicom Onboard LAN Drivers under Windows XP

(Windows XP can detect Davicom LAN driver automatic, so this installation is to update the LAN driver)

1. Move the cursor to the computer icon.
2. Press mouse right button select “properties”, then click it.
3. Click “Hardware”, then click Device Manager”.
4. Double click “Network adapter”.
5. Double click “DAVICOM 9102-Based PCI Fast Ethernet Adapter”.
6. Click “Driver”
7. Click “Update Driver”.
8. Select “Install from a list or specific location”, click it.
9. Click on “Next”.
10. Click “Browse”.
11. The LAN driver directory on the SOYO CD is “d:\LAN\Davicom” (where D: is your CD-ROM), then press “ok”.

Chapter 6

USB 2.0 DRIVER INSTALLATION

For Windows 2000 and Windows XP

USB 2.0 Drivers are available for download using Windows Update for both Windows XP and Windows 2000.

For additional information regarding USB 2.0 support in Windows XP and Windows 2000, please visit
http://www.microsoft.com/hwdev/bus/USB/default.asp

Chapter 7

HIGHPOINT HPT371 DRIVER INSTALLATION

Installing Driver on an Existing System

9x/ME Manual Installation

If Windows can not find new hardware, the driver can be installed through the following steps:

1. Shut down all programs.
2. Click **Start**-->**Setup**-->**Control Panel**, then double-click on **Add New Hardware** icon.
3. Click **Next** in the popup window to continue.
4. A dialog box will appear and ask whether to let windows search for new hardware. Select **No, I want to select the hardware from a list**, and then click **Next** to continue.
5. Hardware of different types will be shown in the follow-on window. Select **SCSI Controllers** and then click **Next** to continue.
6. A dialog box will pop up, input the path of the **SOYO CD. D:\Raid\Hpt371\121\Win98_ME**. (Where D: is your CDROM drive) Then click **OK** to continue.
7. In the next window, the driver you need to install will appear, just click **Next** to continue.
8. Follow the system prompt to install the driver. When finished, restart the computer.

Windows NT 4.0

1. Click **Start**-->**Setup**-->**Control Panel**, then double-click on the **SCSI Adapter** icon.
2. In the follow-on window, select **Driver** item, then click **Add**

button.

3. In the next window, select **Have Disk....**
4. Insert the SOYO driver CD and type in the path the driver CD of **D:\Raid\Hpt371\121\WinNT**, then click **OK.**
5. In the next window, select the **HPT371 UDMA/ATA133 Controller** item, then click **OK.**
6. Follow the system prompt to install the driver. When finished, re-start the computer.

Windows 2000

1. Click **Start**-->**Setup**-->**Control Panel** --> Switch to classic View → system → hardware → device manager.
2. You will see a "! RAID Controller" under unknown device
3. Double click "! RAID controller"
4. Re-install driver
5. Choose "search for a suitable driver…."
6. Insert the SOYO Driver CD, click next
7. During installation, Win 2K will prompt you to insert the RAID driver diskette
8. Browse to the directory that contains the missing file (D:\raid\hpt371\121\Win2000).
9. Follow the system prompt to finish the installation, and restart the computer.
10. After restart, Win 2k will detect "HPT RCM device"
11. Choose "search for a suitable driver….", click next
12. Follow the system prompt to finish the installation.

Windows XP

1. Click **Start**-->**Setup**-->**Control Panel** --> Switch to classic View → system → hardware → device manager.
2. You will see a "! RAID Controller" under unknown device
3. Double click "! RAID controller"
4. Re-install driver
5. Choose "install from a list or specific location"

6. Check “search removable media …..” and then click next
7. Choose the driver for Win XP
8. During installation, Win XP will prompt you to insert the RAID driver diskette
9. Browse to the directory that contains the missing file (D:\raid\hpt371\121\Winxp). If you click yes without browsing, Win XP will not find the .inf file
10. Follow the system prompt to finish the installation, and restart the computer.

Driver Install During OS Installation

Driver install during Windows NT4.0 installation

1. **Go to “d:\raid\hpt371\121\” diretories, (assuming that your CD-ROM is drive d) copy all the files and directory to a floppy disk.**
2. Press **F6** key when the system prompts **Setup is inspecting your computer’s hardware configuration.**
3. Press **F6** key, the installation will continue. Later, the installation program will remind the user to press the **S** key to specify other devices. Please press the **S** key.
4. In the follow-up **Device Type** window, select **Other** item, then press **Enter** to confirm.
5. The installation program will prompt users to insert the floppy disk of the driver. Please insert it and then press **Enter** to confirm.
6. In the follow-on window, select **HPT371 UDMA/ATA133 Controller**, then press **Enter** to confirm.
7. The next screen will list the devices to be installed, in which **HPT371 UDMA/ATA133 Controller** item should be included. (If users want to install other devices, please do so at this time. If all devices have been successfully installed, please go to next.)
8. Press **Enter** to continue the installation of Windows

NT4.0.

Install driver during Windows 2000 installation

1. **Go to "D:\raid\hpt371\121\" directory, (assuming that your CD-ROM is drive d) copy all the files and directories to a floppy disk.**
2. If Windows 2000 is installed from the floppy drive, please let the installing program run automatically. If Windows 2000 is installed from the CD-ROM drive, please press the **F6** key when the message **Press F6 if you need to install third party SCSI or RAID driver** appears.
3. Press the **S** key to specify additional devices when the **Windows 2000 Setup** window appears.
4. Insert the floppy disk with the driver, then press **Enter** to continue.
5. The system will ask whether to install the driver under **WinNT** or under **Windows 2000**, please select to install the driver under **Windows 2000.**
6. In the next screen (Device Type), please select **Other** and press **Enter** to continue.
7. The next screen will list the devices to be installed, in which **HPT371 UDMA/ATA133 Controller** item should be included (If users want to install other devices, please do so at this time. If all devices have been successfully installed, please go to next.)

Install driver during Windows XP installation

1. **Go to "D:\raid\\hpt371\121\" directory, (assuming that your CD-ROM is drive d) copy all the files and directories to a floppy disk.**
2. Booting from CD-ROM, when the **Windows XP Setup's** blue screen appears and prompts the user to press the F6 key to install third party SCSI or RAID driver, please press

the F6 Key.

3. Press the **S** key to specify additional devices when the **Windows XP Setup** window appears.
4. The system will ask whether to install the driver under **WinNT** or under **Windows XP**, please select to install the driver under **Windows XP.**
5. Insert the floppy disk of the driver, then press **Enter** to continue.
6. In the next window (Device Type), please select **HPT371 UDMA/ATA133 Controller for Windows XP** to continue.
7. Windows XP will prompt you with a message that the driver is newer than the default driver, press S to continue.
8. The next screen will list the devices to be installed, amongst which the **HPT371 UDMA/ATA133 Controller** item should be included. (If users want to install other devices, please do so at this time. If all devices have been successfully installed, please go to next.)
9. Press ENTER to continue Windows XP setup.

Chapter 8

SERIAL-ATA DRIVER INSTALLATION

Win 98SE/2000/XP installation

The Serial-ATA chip will be automatically detected after installing the Highpoint 371 driver.


SOYO